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BONDS AND STOCKS

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THE ELEMENTS OF SUCCESSFUL
INVESTING

BY
ROGER W. BABSON

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ROGER W. BABSON



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The Elements of Successful Investing.

CONTENTS.

Preface	5
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Section I.

Introductory Suggestions.

CHAP.

1 The Young Man's Credit	9
2 Selecting a Bank	19
3 Suggestions for the Investor	40
4 The Investor's Vocabulary	52

Section II.

Elements of Successful Investing.

5 Different Classes of Corporations Issuing Securities	86
6 What Kind of Bonds to Buy	97
7 Listed and Unlisted Securities	117
8 Selecting Railroad Securities (Bonds)	146
9 How to Read a Railroad Report	158
10 Selecting Railroad Securities (Stocks)	173
11 Electric Railway Securities	188
12 Lighting Securities	205
13 Telephone Securities	218
14 Water Power Securities	236
15 Municipal Securities	252
16 Exchanging Investments	277
17 Defaulted Bonds	293
18 Copper Stocks	309
19 Mining Securities	322

Section III.

Supplementary Suggestions.

20 Money Market and Investment Prices .	338
21 Effect of Gold Production on Security Prices	354
22 Investing in New Propositions	378
23 Conclusion	390

ALTHOUGH obtained from sources believed to be accurate, the information and opinions given in this book are not guaranteed, and the publishers and author submit them with this distinct understanding.

R. W. B.

PREFACE.

MUCH attention is given today to public education. We have various schools and colleges for almost every conceivable purpose except for the taking care of property. When it comes to the science of investing money, very few people make it a question for thought and study. The great majority of investors do not know one investment from another, but depend to a large extent on hearsay. A man will spend from ten to fifteen years of his life in preparation so as to thoroughly master a vocation, but he expects to enter the investment field with very little, if any, practical training on the subject of investments and the science of investing money. To make a success of any business, the fundamental principles must be thoroughly understood, but fundamentals cannot be mastered without study.

A few years ago, absolute safety with 3-1/2 to 4% income was considered an investment, whereas a 5% return was considered a speculation. Only recently, however, one of the large banks in England failed—not because it had been investing in

unsafe securities, but because it had confined its investments to the British Consols and securities of a similar high grade. In other words, it failed because of the approved excellence of its investments! It was not many years ago that the British Consols were selling at 112, or thereabouts, and they have since dropped to around 80. When we consider that practically the best investment in the world can behave in this manner, are we not sometimes justified in being sceptical in regard to the securities which are being offered at the present day?

The British Consols are not the only securities, of course, which have shown this decline, since practically all the conservative bonds have dropped in a similar manner. The fact of this great decline has caused the investing public to seek securities which pay a greater income than $3\frac{1}{2}$ and 4%. The field which has naturally opened up to them is that of Public Utilities which, a few years ago, were considered anything but conservative. There are many securities of electric railways, lighting, telephone, industrials and water power properties which today form a very desirable form of investment. One, however, must be thoroughly informed on the fundamental principles underlying the security of these newer issues, as well as other classes of investments, before making any purchases.

This demand for a greater income has in another way naturally led to greater speculation. As there are many ways of making money by improper

uses of capital, it is well to remember that, fundamentally, making money with safety must mean the serving of some one else to a sufficient extent to pay for the profit rendered. If one buys or sells a carload of corn for general consumption, he is doing a distinct service and at the same time is being paid for so doing. In speculation, however, one expects to violate this fundamental principle, and with very little trouble or exertion on his part, to obtain a handsome return on his money.

Here is a man who can earn from \$2 to \$20 a day in some legitimate occupation. It looks small. In the stock market he has made \$100 in one day. Why not continue? Why stick to his paltry day's pay when this opportunity offers? A quarter picked up in the street is wealth, whereas money earned by giving an equivalent is almost begrudged. A man plays the stock market all the winter, and at the end of the winter finds he has made just \$100 net. "But on the other side of the account," he says, "I haven't added up the whiskeys, cigars, headaches, loss of sleep or the dreary, miserable days I have spent during this time." Could he not have made much more in some other way?

A man will work hard in politics for two theatre tickets, because he feels somehow that they have come without the sweat of his brow; but it is with the sweat of his brow that his real income is obtained. One who speculates gradually notices that the customers in that office are constantly changing. The reason for this can be easily seen, but few have the courage to analyze the same.

There are some investments which are especially adapted to various individuals in different classes of life. There are other investments for national banks, savings banks, trust companies, life and fire insurance companies, estates, trust funds, guardians, and bonds for the surplus funds of any business. Innumerable bonds and stocks which are especially adapted to the private investor are on the market.

The properties in which we invest should be of a useful, permanent and steady nature. We should not only be familiar with the present conditions of any property, but should also study the past and future. We should endeavor not only to study the surface conditions, but we should certainly get down to the fundamental principles and work up from there. This is not a world of accidents or chance, and we cannot expect to see the stars peeping out at noon day. Neither can we hope to acquire great riches by profiting from certain tips or by not giving the other man due labor or pay for whatever we receive.

The field of investments certainly offers many attractions but, anyone who is unwilling to give this subject careful and definite study should employ his money in other lines with which he is more familiar. Investing certainly is a profession and must be prepared for accordingly.

CHAPTER I.

THE YOUNG MAN'S CREDIT.

Why He Needs It and How He Can Get It.

LOOKING out of the window of a large Chicago hotel, one obtains a view up La Salle Street which, as all western readers know, is the Wall Street of Chicago, our great western metropolis, and which some day should be the financial center of America. Towards Madison Street, can be seen great bank buildings unequaled even in New York or any other world city, unless it be Paris or Berlin. But it is not so much the present conditions which are impressive, as it is the thought of Chicago about twenty years ago, when these same great banks were in small rented offices, and when only very few buildings on the street exceeded four stories in height compared with the great sky-scrapers of today.

But this is not all; for as these great banks have grown, their customers have also increased in wealth and influence. An illustration will emphasize this point. Some twenty years ago, two young men came from a little town in Nebraska to Chicago to earn their living in any way possible. They were living in the humblest circumstances, working for one dollar a day with absolutely no acquaintances, friends nor even a trade. In fact, to one trained in a conservative eastern manner, it seemed that they did not have one chance in ten thousand of even getting a living. The longer the

boys stayed, the more difficult their position seemed likely to become, for times were very hard in Chicago during the early nineties and the city was flooded with unemployed. However, they worked hard and were always ready to do the next thing whatever it might be; moreover, it was absolutely impossible to discourage them. Gradually they attracted the attention of one or two men of means. These men saw that the boys were absolutely honest, of exceptionally good habits and training, and unconsciously these boys created a credit with these men.

It is sufficient to say that they now live in a suburb of Chicago where they each have a most beautiful home, and are surrounded with every comfort that an honest American can desire. In short, today they absolutely own one of Chicago's great mail order houses, and their name is a household word in almost every home of these United States, all of which is the result of credit established in the early days.

Banks and the People are Dependent Upon Each Other.

This is only one illustration of tens of thousands which might be given showing how intimately related are the banks and the people of any community. The banks of Chicago could not have grown in the past twenty years, as is so impressively evident without these boys and others like them developing great business organizations which gather into Chicago millions of dollars each day.

On the other hand, these boys could not have grown had they not established a credit, and had it not been for the banks which financed them, or financed the firms from whom they purchased.

The moral of this narrative is:—to the banker; take care of the small depositor and the small borrower. Remember that although to-day's business may depend upon how you treat the large depositor, yet your growth and your condition twenty years hence depends upon how you treat the small man who now has only a few hundred dollars in his account, but who is endeavoring to establish credit. To the young man, open a bank account. In fact you should have two bank accounts, one for your savings and one for a check account. These should be your first two investments.

Those who are large investors and who buy and sell about once in two years in accordance with the changes in fundamental conditions always have large bank accounts preparatory to purchasing securities when the proper time comes. Many people say, "During the next period of low prices, I am going to buy some good securities"; but they make no actual preparation for the same, and when said time comes, they have no money with which to buy. The keen investor sells his securities, real estate and other investments when they can be sold, and builds up a large bank account with the proceeds thereof. Then when the trouble comes and prices of stocks, bonds, real estate and commodities fall, he has the ready money, and is able to help

save the situation and at the same time, make a handsome profit.

Let us return to the Chicago illustration and note that these men obtained their start through establishing a credit. Now the four corner stones of business success are:

1. Character
2. Health
3. Intelligence and Judgment
4. Credit

Given these four, any man should succeed; but, omit any one of these four—although he may apparently succeed—his success will be only temporary. All permanent success depends upon the development of these four fundamental factors. All four factors are important, but we will limit ourselves to the last; namely, *credit*.

There are many ways of acquiring credit, yet the easiest, most satisfactory and most useful is to connect one's self with two local banks. Many refer to banks only as a place for depositing money; but this is the least of the many reasons why a young man should have one or more bank accounts. We will give two:

(1) To gradually establish a credit for later use.

(2) To create a source of advice relative to financial matters.

Establishing a Bank Credit.

To establish a credit, a man must begin early in life. The man who has not established a credit

before he is thirty-five is greatly handicapped. Therefore, as bank accounts are the best means of creating such a credit, young men should open accounts just as early in life as possible. To buy even a share of stock or a foot of ground before having two bank accounts is a vital mistake. Some think that if they have property, they can readily obtain a loan from a bank whether or not they have ever been a customer of a bank. This is a mistaken idea. When money is abnormally plentiful, any man with property may doubtless be able to borrow on security from some bank of which he is not a regular depositor, but such is the exception. Moreover, at such times a man does not usually need to borrow, because when money is cheap, either all customers are promptly paying their bills, or else business is so depressed that there is little object for one to borrow. The average man is most anxious for money when rates are high, and banks have little or none to lend. It is then that the banks limit their loans to customers; and furthermore loan first to those who have been the longest and most profitable customers. Therefore, every young man should be urged to use his very first savings for the establishment of a savings account, and to open a checking account before buying a share of stock or a foot of land or any other property.

Credit to a large extent means "favorable acquaintance." The depositor who calls at the bank only once a year, has not such good "credit" as the one who calls each month. Better still, the

young man who is paid weekly should call once a week and deposit his salary, in the checking account of a local bank. When depositing said salary, he should speak a pleasant word to the teller and gradually acquire the good will and friendship of the officers and directors. Once a month or once a quarter—whenever interest goes on deposit in the savings bank—he should withdraw from his checkings account (upon which he probably is not receiving interest) such portion as he desires to deposit in his savings account—in the other bank. This enables a young man to call at the commercial bank once a week, and at the savings bank once a month or so, and thus gradually acquire the acquaintance and good will of both institutions which means CREDIT.

The young man, however, must not be content with simply opening two accounts as early as possible and systematically making deposits therein, but he must have these accounts of a size to be worth while. The average depositor fails to realize that many accounts today show our banks a distinct loss, and the only reason why a bank does not refuse them is because the officers hope that some day they will be large enough to be profitable. However, although a bank will not refuse a small account, yet a young man cannot expect to acquire much of a credit upon which some day to borrow, unless his account is profitable. Therefore, young men should be urged to carry good accounts. Don't be stingy with a bank. Remember that some day it will be your best friend. If you wish to use

the bank later, allow it to make money on your business now. Be broad gauged and don't sharpen the pencil too finely, but remember the man who held the penny so near his eye that he shut from view the entire world. Remember how the farmer must spend money on seed and dressing; how the physician must spend years on study and practice. Remember that credit, like everything else that is good, cannot be obtained quickly or for nothing, but has its price.

But there are other reasons why young people should open bank accounts. It is very advisable to pay bills by checks. This not only safe-guards one by having an automatic receipt, but it makes a good impression on the merchant to receive a check from a young man. It shows a merchant that his customer has a bank account, and thus the young man indirectly establishes a credit with the merchants. Having bank accounts enables one to quickly cash checks, remit money, give references, and serves a host of other purposes in addition to aiding in the establishment of a credit.

Obtaining Advice in Financial Matters.

For the young investor to attempt to select safe securities without some outside honest and experienced aid, is a great mistake. As one begins to study and acquire experience, he is of course, less dependent upon the advice of another; but when investing his first thousand dollars, the small investor should go to his bank for aid. Although it may not necessarily be wise to buy what the bank

recommends, yet one should never buy what the bank disapproves.

Let us assume that a young man in St. Louis has saved three thousand dollars of which one thousand is deposited in a national bank and two thousand in a trust company, which latter amount draws interest. The young man, however, is convinced that he can obtain a higher rate of interest—say five per cent.—by purchasing some one of the many bonds which he sees advertised in the papers and magazines.

He has sense enough, however, to know that not all which are advertised are safe, and he is anxious to know how to select the best bond for his purpose. If the young man has no bank accounts and especially has not acquired the friendship and good will of a commercial bank through a checking account, it is difficult to realize how he can avoid losing money when attempting to invest. One might say at first thought, that he could go to a good bond house and leave it with them; but how does the average investor know a reliable bond house from an unreliable one? Certainly a firm is not reliable because it advertises largely, or because it has beautiful offices and a large force of salesmen! Therefore, the best way for the investor to obtain honest, intelligent information as to investments is either through some bank in which he has an account of sufficient size to cause said bank to give him time and thoughtful attention, or so perfect himself by means of a definite study of investments that he becomes self-reliant.

How many may have wondered why two accounts, or rather accounts with two different banks are recommended. The St. Louis investor above cited draws his money from his savings account with which to make his first purchase, and it is very awkward to ask advice of a bank from which one is drawing the money. Consequently the commercial bank where one has his checking account is first appealed to for advice. Such a bank may be requested to recommend certain definite bonds, or one or more reliable bond houses to whom the investor may write. When writing to one of these bond houses, the investor may ask for a "first mortgage underlying lien which is absolutely safe and yields about five per cent." After receiving a list from the bond house (or houses in case the bank recommends more than one) the investor can then ask the opinion of his commercial bank as to which bond it would select.

The commercial bank will probably choose two issues, so that when depositing in the savings bank, the depositor can ask the treasurer of this other bank whether or not he believes "either of these two bonds to be absolutely safe, and if both are safe, which of the two is the better?" In short, when the investor has found an issue which, first, is recommended by a firm that the commercial bank recommends,—and secondly, is approved by both the commercial bank and the savings bank, he may be reasonably sure that such a bond is absolutely safe to buy, and the sooner he purchases it the better.

Briefly, if all small investors will follow this general course, not only will they eliminate losses, but the increased bank accounts will so interest the banks that henceforth they will give special attention to all such advisory work. Of course as the investor becomes more experienced, he is less dependent upon his banks for advice; but, on the other hand, he later will have more money at stake, and he will always find it of value to be able to consult with such institutions.

Moreover, their advice is not wanted for the purchase of stocks and bonds alone. When purchasing real estate, and especially when desirous of knowing the standing or credit of any manufacturing or mercantile firm with which the depositor may have business relations, the knowledge, experience and the good will of two banks will be found to be of great assistance.

The small investor who starts out in this way is building his house upon a firm stone foundation; but he who tries to get on without always having two good bank accounts, and expects to obtain his advice for nothing is building his house on a foundation of sand, and some day he will either have all his savings washed away or make a large loss. Good advice—like everything else that is good—cannot be obtained without giving something in return, and the young man who sometime may desire the aid of one or more good banks should start in at once and give these banks a good account.

CHAPTER II.

The Selection of a Bank with Suggestions to Bank Employees. Published Statements of Banks.

EVERY national bank is compelled by law to publish in a local paper at certain intervals a statement of its conditions, and this also applies to a limited extent to most trust companies and state banks. Whether or not, however, one sees the published statement in a newspaper, he can always obtain a printed statement from his bank. This statement usually appears in the form of a little leaflet or circular, which in addition to giving a condensed trial balance of the bank's condition, gives a list of the names of the officers and directors.

Although there are many suggestions as to the means of determining the strength of a bank in order to select one in which to deposit, yet all of these methods practically resolve down to a study of this statement. The following is a statement of a small bank as published in the local paper and is a typical illustration.

RESOURCES

Loans and Discounts	\$272,415.25
Overdrafts, secured and unsecured	124.03
United States Bonds to secure circulation . .	50,000.00
Securities, Bonds, etc.	330,646.90
Banking House, Furniture and Fixtures . . .	2,000.00
Due from State and Private Banks and Bankers, Trust Companies and Savings Banks . . .	1,486.54
Due from approved Reserve Agents	69,788.34

Checks and other cash items	57.35	
Fractional Paper Currency, Nickels and Cents .	446.12	
Lawful Money Reserve in Bank—namely:		
Specie	\$16,839.45	
Legal-tender Notes	8,000.00	24,839.45
Redemption Fund with United States Treasurer		
five per cent of circulation	2,500.00	
Total		\$754,303.98

LIABILITIES

Capital Stock paid in	\$ 50,000.00	
Surplus Fund	25,000.00	
Undivided Profits, less Expenses and Taxes paid	2,804.21	
National Banknotes outstanding	49,300.00	
Dividends unpaid	1,500.00	
Individual Deposits subject to check	618,869.13	
Demand Certificates of Deposit	4,338.48	
Certified Checks	348.30	
Cashier's Checks outstanding	2,143.86	
Total		\$754,303.98

State of Massachusetts

I, _____ County of _____ ss.
 _____, Cashier of the above-named bank, do
 solemnly swear that the above statement is true to the
 best of my knowledge and belief.

Subscribed and sworn to before me this _____ day of _____
 191—.

Correct—Attest:

_____, Notary Public.

_____,
 _____,
 _____,
 Directors.

Of course to an accountant, these statements are fairly intelligible as they are published, and absolutely so when supplemented by such complete details as are returned to the Comptroller of the Currency, or to the proper state authorities; but to the average man, they are often meaningless.

It is very difficult for the small investor to obtain much information from the examination of simply one published report. The best way is to systematically cut out and file each statement, and then compare these statements from time to time. By such a comparison, a business man who is acquainted with figures, will notice if a bank is growing in the right direction. In short, it does not make as much difference in regard to what the statement is, as it does whether the statement is gradually improving or becoming worse. To illustrate: in the above statement, it does not matter whether the surplus and undivided profits amount to \$27,804.21 or whether it is \$5,000 greater or smaller; but it makes a great difference whether every six months this "Undivided Profits" account is gradually increased or whether it remains fixed. The same rule applies to the "Banking House" account, only in an inverse manner. A successful bank endeavors to cut down this account rather than increase it, and a comparison of reports quickly shows the investor which his local bank is doing. Ninety per cent. of our banks are being operated in a most straightforward and conservative manner, and there are very few who resort to improper methods. Therefore, the main purpose of keeping such statements is to notice whether the bank is growing and is gradually becoming stronger, or whether it is at a standstill or possibly falling behind. In selecting a bank in which to deposit, the small investor or business man should

look much further than the report, and should always study the following four points:

- (1) The Management
- (2) The Quality of Assets
- (3) The Relation of Deposits to Capital,
Surplus and Undivided Profits
- (4) The General Opinion of the Com-
munity

Interpreting a Bank Statement.

Management: Every bank, although technically a corporation, is practically run the same as any business with two or three men really responsible for the policy of the institution. The policy of many banks is dictated by one man, and in many cases, the banks with a large board of directors are run by only two or three of the most active, rather than by the entire board. Although the Comptroller of the Currency may object to this method, it is about the only method by which many banks can be successfully operated. Moreover, it may be said that if he were president of a large institution, he would dictate its policy in the same efficient manner that he now dictates the policy of his department, and his associate directors would have nothing more to do with running the institution than has the average bank director today. In fact, the reason that the banking department at Washington is run so efficiently is because there is only one Comptroller of the Currency instead of seven or more.

It is, however, absolutely necessary that a depositor should know these two or three men who dictate the policy of any bank in which he is interested. Moreover, it is absolutely necessary that he should select institutions in which these men stand for the highest character and judgment. The first requisite is absolute honesty, and nothing at all questionable should be countenanced in any way. Nevertheless honesty alone is not sufficient; and the man who successfully operates a bank must have good judgment and wide experience in financial affairs.

Not only does the safety of a bank in which one deposits depend upon the good judgment of the man at the helm, but if one of the depositors should greatly need money during a period of financial stringency, he wishes his bank to be in a position that he may be accommodated. If the bank is being operated by easy going men who loan out money in quantities when it is cheap, then trouble comes when these men are unable to give further accommodation, as other depositors have previously over-borrowed and the bank is in a position where it cannot increase its loans.

Character of Assets: After looking up the character of the management, the next thing to note is the character of the assets. In reality, the average bank statement gives an investor no definite information on this point, which is very unfortunate. The time may come when all investments and loans will be open to the public inspection, and when this time comes a great stride will

have been made in purifying the financial atmosphere. In fact, one of our recent Presidents who has done so much for the welfare of the average citizen, could have performed no greater service to investors than to have a law enacted which would permit an examination by any depositor of the investments and loans of the bank in which he deposits. This simple law would immediately rectify all of the wrongs which for years we have been attempting to eliminate by various round-about methods. If the loans of a bank were open to inspection, this would eliminate the abnormal borrowing on the part of any officers or directors; it would prevent borrowers from obtaining money under different names; it would prevent banks from loaning to men of questionable credit, and it would immediately force all banks to clean house in order that only good, clean names could be found among their assets. But this is not all. Think how such a law would eliminate manipulation in the stock market! Such information would immediately show whether certain Wall Street interests were "long" of stocks or "short" of stocks, and would to a large extent, eliminate "wash sales" and other deceptive practices now indulged in.

Moreover, as banks need not accept deposits from any one to whom they would not care to have their affairs known, such a law should be no hardship to them. In fact, banks which are in good condition are usually willing to show their assets to any bona fide inquirer, and any depositor may feel free in going to his bank and asking the priv-

ilege to talk over this matter. Although there may be exceptions, in most cases the proper officer will be found willing to show a complete statement of the bank's holdings to any valuable depositor, as well as permit him to look over the list of borrowers. Of course, if any bank would not permit this, unless there should be some good reason therefor, one would be justified in withdrawing his account and placing it elsewhere.

Relation of Deposits to Capital, Surplus and Undivided Profits: One must refer to the bank's statement for this third feature. Aside from the reason above suggested, a depositor refers to the statement of a bank in order to ascertain how much a loss the bank can stand without causing the depositors a loss. This margin of safety, so to speak, is the capital, multiplied by two, plus the surplus and undivided profits. In the case of the statement given above, the capital being \$50,000, the surplus \$25,000. and the undivided profits being \$2,804.21, this bank could theoretically sustain a loss of \$127,804.21 before causing a loss to any depositors. "Theoretically" because possibly all stockholders would not be able to pay the assessment, and probably all of the assets could not be sold at their book value. However, with the same character of management, a bank which shows the greatest margin of safety figured in the above way, could naturally be expected to stand the greatest percentage of loss, and thus be said to be in the strongest position. This means that with the deposits the same, the bank with the largest capital,

surplus and undivided profits is in the strongest position from a depositor's point of view. Of course, from the stockholder's point of view a smaller capital is often more desirable, and the stock of banks with relatively smaller capital usually sells at higher prices. Here, however, we are discussing the analysis of a bank statement only from a borrower's point of view, and we are not discussing in any way how to determine the value of bank stock, which is an entirely different proposition.

Confidence of the Community: Usually, it is a bad practice to do what everyone else does, and those who make the most money are those who buy when all other people are endeavoring to sell, and sell when others are buying. This seems to be true all along the line; and it was only a little while ago that a student of fundamental conditions said, "I will give a rule of thumb to follow, viz.: buy long term bonds when the largest New York banking houses are offering short term notes and buy short term notes or else leave your money on deposit in the bank when these houses are urging the purchase of long term bonds." In short, in most instances the feeling of the community cannot be depended upon for guidance. When selecting a bank, however, one is justified in considering the feeling of the community relative to an institution, and it is well to associate one's self with only such banks as stand well in the community, and in which all citizens have absolute confidence.

In addition to obtaining information on this subject from common gossip, the bank statement also shows the feeling of the community in two distinct ways, viz.: (1) The statements show whether the deposits are gradually increasing and have continued to increase over a long term of years, or have reached a standstill, or are declining. Any bank which does not make any special inducements, but offers the same terms as other banks, and continues to gain in deposits, usually has the full confidence of the community. There is, however, another method of judging the confidence of the community besides studying the report; that is, whether or not the stock sells at a price approximately equal to its book value as shown on the statement. In the above statement, as the sum of the capital, surplus and undivided profits is \$77,804.21 or about 156% of the capital, this shows that the book value of the stock is approximately \$156. per share and in the case in question the stock sells at approximately this figure. There is, however, another institution where the capital is \$200,000 and the surplus and undivided profits \$100,000, and the stock sells for only \$110. per share. This clearly shows that in the latter case, the institution has not the confidence of the community, for if the community believed that the statement were correct, none of this stock could be purchased at \$110. per share. Therefore, when picking out a bank in which to deposit, it is well to obtain from the officers the bid price of the stock and compare this price with the book value.

It is apparent that there are in this country over 100,000 clerks directly in the employ of banks which receive money on deposit; if stock exchange firms, bond houses and allied institutions are included, there must be about 250,000 employees who are indirectly dependent upon general banking. This means that over 1,000,000 people in this country are dependent for their livelihood upon the good-will of our nation's 10,000,000 bank depositors. An appeal to the depositors to give more business to the banks, may well be supplemented by an appeal to these one million people, whose living depends thereon, to give these small depositors a square deal.

Small Depositors are Entitled to Encouragement.

A young man who belongs to one of the very best families in an eastern town, who is a graduate of Harvard University and has all of the "ear marks" of a young man of character, education and accomplishments, when first visiting one of our western cities, found it absolutely impossible to find a large institution which would permit him to open a small checking account. After visiting several large institutions, he was obliged to give his account to a small new bank which had only recently started.

This small new bank may some day be as large and influential as any, but it would seem that the larger institutions in that city are following a very short sighted policy. Of course there is no reason

why a bank should take every account that is brought to it, as doubtless there are many men who would take advantage of a bank by over-drawing their account, and resort to other illegitimate practices. But for a bank to refuse a depositor simply because they do not already know him is a great mistake. When a young man brings an account to a bank, if the bank does not know the young man and if he is not properly introduced, *it should take pains to look up the young man, and if of good character, give him checking facilities.* Of course many bankers will reply, "We are perfectly willing that any young man should open a savings account; but we cannot afford to let him draw checks unless we know him and his balance is attractive." When a young man desires to draw checks and at the same time expects interest—even at so low a rate as two per cent.—a bank is justified in refusing his interest; but it should not refuse him the accommodation of a checking account, as it should encourage the use of checks in every possible way. It is all right for a bank to spend money on newspaper advertisements, calendars, and other souvenirs; but it had much better spend this money in encouraging young men to open checking accounts and acquire the "banking habit."

Although banks encourage the starting of small savings accounts when they will not encourage small checking accounts, yet the average bank employee has much to learn regarding how to treat small savings depositors. The two things most dreaded

by a boy are visits to the dentist and the local savings bank. He is often abruptly treated and visits the savings bank with fear and tremblings to deposit a few dollars. Although this may be a little overdrawn, yet probably most men have had the same unpleasant feelings during their early banking experience. Most of the large city savings banks would greatly increase their efficiency and usefulness if their clerks should be taught courtesy and gentleness, as are the clerks of a mercantile store which is subject to real competition.

An illustration shows this condition well. A young man visited a large Boston savings bank on an errand in connection with the bank account of one of his employees. While waiting his turn at the window, he was astonished at the abrupt manner of treatment which was shown to small depositors of that great institution. Instead of speaking a word of encouragement to these poor people who were turning in savings that represented to them weeks and months of labor, they actually were not treated with common decency. Although many believe that there is no need of postal savings banks if our present banks would arise to their opportunities, yet if they could stand in line at some large savings bank, they would readily understand why the people demand something different than exists to-day. Of course, this does not apply to all banks, for many of the younger and smaller institutions have an atmos-

phere of cordiality and hospitality; but this does apply to a very large number of institutions.

Therefore, the men who are in any way connected with our nation's great banking system should remember that your business can be increased and developed by a pleasant word and a cheerful smile just the same as the business of any store located in your city. It may be true that a certain number of people must do business with you however you treat them; but it is also true that the deposits of your institution would be much larger, and the number of depositors greater, if you strove harder to be of service to them in every legitimate way possible.

Banks Should Advise Regarding Investments.

Two ways of soliciting accounts by the banks are here given; (1) by giving good checking facilities and (2) by seeing that their institution is in a position to give financial advice to any depositor requesting the same. Here is the great difference between the large foreign institutions and our own American banks. The great banks of France, Germany and other older countries serve both of these functions. They act as a place for the accumulation of savings; but in addition, they aid the depositors in the investing of these savings.

In the case of the real French savings bank, after about \$1500 has been deposited, the bank officials are required by law to purchase a \$100 bond for every additional \$100 deposited, and to place said

bond in an envelope and mark it the property of said depositor. In other words, the French peasant can continually bring money to certain French banks, and he will always have about \$1500 on deposit and the balance in bonds which have been purchased for him by the ablest French financiers, which bonds are his own property, and are being held strictly for him. Other foreign banks do not use this method, but systematically make offerings of securities every week for the express benefit of depositors who are ready to make outside investments. In addition to advertising these offerings, the manager of each bank examines his depositor's accounts and sends special letters recommending the purchase of the bonds to all depositors whose accounts have reached a certain size. In other words, they "treat every depositor as they would the depositors should treat them," striving simply to serve the best interests of the depositors believing that eventually this policy will react to the benefit of the institution.

When the New York, New Haven & Hartford Railroad Company's \$100 bonds were being offered to French investors to yield nearly five per cent, every bank throughout France interested in this syndicate had a large placard of about 30 x 20 inches, with the advertisement printed thereon, pasted on its plate glass windows and hung by the receiving windows. How different this method was from the method employed by the American banks. For instance, when New Haven bonds are offered in this country, they are first made only in

denominations of \$1000, which is beyond the reach of an ordinary man; and then only a few offerings, marked "confidential," are mailed to the various larger banks telling about the issue. In fact, every effort is made in this country to sell the issue before making any public announcement which can be seen by the small investor. The result of this is that when the issue is finally advertised in the daily papers, and it is stated that "the subscription books will be open this morning at 10 o'clock and remain open for three days," a reading notice is found among the financial items stating that the "bonds have been over-subscribed and the subscription books were closed immediately after opening," which means that the small investor who desires to purchase a thousand dollar bond must pay three profits, viz.:—the underwriter's commission, the banker's commission, and in addition a profit to the speculators and various other "friends" who purchased the bonds at private sale just before the opening of the subscription books.

Now there is no doubt but that American bankers know their business and need no suggestions from outsiders who are interested simply in the small investors, but if Mr. Mellen had issued his bonds in denominations of \$100 and had hung placards, offering these bonds for sale, near the ticket windows of 350 of his ticket offices or in the windows of 350 banks along the line of his railroad, the bonds would have been sold as quickly as was the case by posting these same placards on the windows of 350 banks in France.

In other words, there is a great opportunity for the banks of this country to take the small investors into their confidence and have them learn that the banks are truly interested in their welfare, in the same way that the French peasants believe their banks to be interested in them. Probably the American banks feel that if they recommended and sold investments, the money used to pay for the same would be withdrawn from their institutions; but will it not be withdrawn eventually anyway? Is it not much better to sell depositors something which is sound (and in addition to receiving a profit thereon, to prevent said depositors from making unnecessary losses) than to have them use the money to buy some worthless mining, oil or real estate stocks? Moreover, in refusing to give more study to the subject of investments and business conditions in general, many American banks are offending not only the small investors, but the large investors as well.

How Many Depositors are Offended.

For instance, a large bond holder recently received a check of several million dollars from one of the largest steel corporations for ore lands which he owned. This man had simply been the owner of land all his life, and although one of the best informed men in America on iron ore properties, he knew absolutely nothing regarding stocks and bonds. Therefore, upon receipt of this check he literally did not know what to do with it, except to divide it among a half-dozen of the largest banks in

his city pending further investment. To hear the man relate his experiences with these banks would truly make a story in itself, but the upshot of the matter is as follows:

Being largely a student by nature, he determined to study investments and fundamental business conditions in the same systematic manner as he had previously studied geology and chemistry; and he started out by visiting these banks and asking the opinion of their officers as to what they would advise for investment. Without exception, as this man relates his story, these banks absolutely refused to give him any concrete information whatever. Of course, being such a large depositor, they treated him with profound respect, inviting him into their private offices, and in some instances the cashier invited him to lunch in order "to talk over the matter;" but these bank officials absolutely refused to commit themselves in any way. When relating this story, the man was so indignant that he insisted that these bank officials either were too ignorant to be operating the institutions, or else they refused him information fearing that, if they advised the purchase of any securities, he would withdraw the money from their banks in order to purchase said securities. At least, he interpreted their talk in the latter way and, although he did not buy any securities at that time, he withdrew the money from all of these local banks, and deposited it in some large Chicago banks with the officers of which he had no personal acquaintance whatsoever.

Now, if one of these local banks in which this man had first deposited the money, had striven to truly help him in the investment thereof instead of losing his deposits, this wealthy man would have become a most valuable asset for the institution, as the income account alone of a man with millions of dollars in personal property is greatly to be envied by any commercial bank. All of these banks, however, utterly failed in their purpose.

This man succeeded in obtaining real information only when he came in touch with a large bond house of national reputation with offices in Chicago. Here he found an employee, who, as a last resort, told him of an instruction course which is operated for the benefit of bond salesmen and investors, and although this man is now over sixty years old, he studied this course with the same energy and seriousness as is being exhibited by the young college graduates who are just entering the bond or investment business. Sufficient it is to say, that although this man still has his money in banks on deposit, yet he some day will invest it; and when he does, this bond salesman who, instead of trying to "land him" with some securities in which he could make a good profit, was willing to give him the help he desired, will some day have a most valuable customer.

It is, therefore, evident that the men employed by our nation's financial institutions should be more courteous and more affable, and should also study financial matters, thus becoming posted on mercantile, monetary and investment conditions.

He should study fundamental subjects such as failures, foreign trade, immigration, gold movements and learn how these subjects affect the business of his depositors. He should keep in touch with the nation's crops, its mining and manufacturing industries in order to be of aid to the merchants of his town, and show them the parts of the country in which they should contract their selling efforts and where they should push out for more business. He should study the New York Bank Statement and the Comptroller's Reports and learn how to anticipate changes in money rates in order to be of service to his borrowers, showing them when to expand or extend their credits, and when to pay up their loans and harbor their reserves. He should remember that he is something besides a mechanical cash register, to stand up to the window like a machine and receive and pass out money; rather remember that he has a great function to perform in the community, the function of guiding his depositors in their fundamental mercantile, monetary and investment policies.

The Two Main Functions of Banking.

A word to the officers and directors of the thirty thousand banks: Banks have two distinct functions; (1) Aiding in the creation and operation of transportation, industrial and commercial enterprises by providing the capital therefor. (2) Regulating the number and growth of such enterprises by conscientiously increasing or contracting this supply of capital.

The first function is performed by collecting money from a large number of people, known as "depositors," and loaning the same for definite periods by purchasing therewith commercial paper and other securities such as most depositors would be unable to do independently. The second function is performed by varying the amount of cash and securities held; for instance, during periods of panic or depression, when most individuals withdraw money from useful channels and withhold cash, it is a bank's duty to give out all cash possible by purchasing such good commercial paper and high grade securities as are selling below their true value. On the other hand, during periods of great prosperity, it is a conservative bank's duty to dispose of a large portion of this commercial paper and these other securities, storing up large cash reserves pending the next period of money stringency and panic conditions.

In this way such banks not only perform a great service, both to depositors and borrowers by combining small sums and loaning them in safe and profitable channels, but also act as great regulators and "storage basins" for the entire business community. Such banks store cash during periods of great prosperity, when the public is willing to loan anybody and buy anything, and then give out such cash during periods of depression when the public refuses to loan solvent borrowers or to purchase even the highest grade securities. Moreover, for performing these two functions, such banks receive a two-fold reward; namely, the *market rate of*

interest on the loans and securities held, and also every few years a large profit on the purchase and sale of money, so to speak. Moreover, banks which do not fulfill these two functions not only fail to fully serve their true purpose in the community, but also make very much smaller profits and assume much greater risks.

Many banks have heretofore failed to perform this second function owing to their inability to obtain the necessary statistics for correctly judging the trend of conditions; but any bank can readily obtain such statistics if its officers will take the trouble.

When selecting a bank in which to deposit, the small investor should select such institutions as are operated by men best combining highest character and soundest judgment. In other words, the small investor should associate himself with the banks which stand for righteousness and conservatism, and yet encourage the small depositor as well as the large, banks whose officers study investment securities and are willing to give out their knowledge to help others; and above all whose officers are students of underlying business conditions and are guiding their institutions with the above mentioned two-fold purposes in view. In short, look well to the character and general fitness of the men who actually control the institutions insisting on the highest standard of honesty, morality, judgment and broad-mindedness.

CHAPTER III.

SUGGESTIONS FOR INVESTORS.

Fundamental Principles.

THREE fundamental principles which have served as the foundation for the building of America's greatest fortunes may be emphasized here, but before discussing these, the four distinct forms of "investing" which exist in every community today should be understood.

To Which Class Do You Belong?

(1) *Those who buy stocks on a margin to-day with the idea of selling them again within a few days at a profit.* Why these men buy and why they sell is beyond human knowledge. They know very little about the properties; they know practically nothing about the technical condition of the market; and they are absolutely void of any knowledge of fundamental conditions. In most cases, they simply have sort of a mania for trading in stocks, and consequently buy and sell practically with their eyes shut and depending solely upon chance. All of these men can be classified as gamblers, although this class includes a very large number of people. Sufficient it is to say that, generally speaking, not a person has ever followed this trading for any length of time and made money; while the names of hundreds can be obtained whom such a habit has ruined financially, physically and morally.

(2) To go a step further in the sifting, we come to *the men who buy stocks today with the idea of selling them a month or so hence*. These men are usually intelligent and men of means. They do not give much attention to the study of separate properties; but they do consider carefully the technical condition of the market, and endeavor by a study of the transactions of the New York Stock Exchange, as shown by the tape each day, to ascertain what the "insiders" are endeavoring to do, and whether or not the market is over-sold or over-bought or in statu-quo. Although these men often lose, they nevertheless have a distinct advantage over the ordinary traders of the class above mentioned, and cannot be technically called gamblers; but rather constitute a class of intelligent speculators. Although it is not to be recommended that anyone attempt to join this class, as the risks are far too great, yet some of these men perform a function in steadying conditions, and are entitled to as much respect as the speculator in real estate or some commodity.

(3) Another sifting brings us to the third grade, namely: *the men who buy outright high-grade securities, mainly for their interest yield, but also for a profit on their sales*. These are the men who went into the market in 1903, purchasing large quantities of securities, and who held these securities for about three years, when they sold out at a very large profit. Upon liquidating in 1906, these men deposited a part of the money in banks; but invested largely in commercial paper

and in short term notes maturing in one or two years. Then in the winter of 1907-8, they again purchased outright, at an average decline in price of about 40%, the same high-grade securities which they sold in 1906. These securities they held through 1908-9 until the early part of 1910, when they again sold them at a huge profit and again invested the money in short term notes and commercial paper. There is no great secret in this method of investing, but it cannot be practised successfully unless one is willing to study the subject of investments.

As an illustration of how these men have safely acquired great fortunes, it is only necessary to say that \$2,500 invested about fifty years ago, in the ten most conservative stocks of that day such as Lackawanna, Illinois Central, New York Central, etc., (which, moreover, were then selling almost as high as in 1907), would now amount to \$1,500,000, if said stocks had been bought and sold in accordance with the above. Said investor could also have confined his investments strictly to ten high-grade securities—without borrowing or buying on margin—and moreover would have bought and sold only eight times, making a total of only sixteen transactions with an average of about three years apart.

Moreover, if this illustration were based on highest and lowest prices, or if intermediate movements were considered, or if less conservative stocks were purchased, the result might be made much larger. Our illustration eliminates all risk,

chance and extraordinary conditions, and shows only what any person in this third class with \$2,500 can, without any risk, accumulate in a comparatively few years, by simply studying fundamental conditions.

The men of this class comprise the successful and bona fide investors of the world to-day, and may be found in all the large centers of this country, as well as in London, Paris, Amsterdam, Frankfort and other cities. These are the men who buy outright the highest grade securities, and who know when to buy and when to sell by a study of fundamental conditions.

(4) One, however, must walk before running and creep before walking, and therefore there is a fourth class *who likewise buy outright only high-grade securities, but who buy them simply for permanent investment*. These are the people who give no thought to the study of fundamental conditions, and are interested simply in obtaining as large an annual net income as possible and at the same time protecting their principal. This class consumes the output of large issues of inactive bonds which are continually being placed on the market. It is this class which the salesman of the modern bond house seeks to interest in his wares. It is this class which furnishes the great financial strength to the industries of our nation, carrying as they do the huge funded debt of our government, our municipalities, our railroads and industrial corporations.

Nevertheless this class cannot correctly be

termed "investors" unless the term is qualified by the word "permanent." They are technically simply the *savers of money*, keeping it in hand till their pocket-books are full, then depositing it in a bank and buying securities with the surplus. Although we all should hope to some day be counted among the investors of the third class above mentioned, yet we must first belong to this fourth class, as the saving of money and the acquiring of a small capital is the first requisite of success.

Buy Only The Best Securities.

The first principle which those who aspire to be investors should remember is that all purchases should be confined absolutely to safe investments. In a talk with a New York bank man who is connected with one of the largest trust companies and is in a position to know the results attained on all classes of investments, he said that it was absolutely impossible for a permanent investor to obtain with safety over a long period of years, more than five per cent interest. He stated that a number of funds passed through his hands; some were invested in speculative mining stocks, paying from ten to twenty per cent per annum; other funds were invested in industrial stocks, paying from seven to twelve per cent per annum; other funds were invested in bonds of new companies, paying around six per cent per annum; and other funds invested in seasoned bonds of established companies, paying from four to five per cent per annum. Then he remarked that the final net income of all of these

funds was practically the same, namely: about four and one-half per cent. *This is because the losses on the principal, in the cases of the funds invested in high dividend-paying stocks, were sufficient to bring down the average income to the above mentioned four and one-half per cent.* In other words, the loss on the principal seemed to directly increase with the income, and it seemed to be almost an impossibility to beat the law of averages, when a number of securities are considered. The investor, therefore, who can buy only a few securities, and who cannot rely on this great law of averages should therefore eliminate all these stocks which pay large interest rates, all unseasoned securities, and in fact, everything except the best.

It can be frankly stated that the best investments for the small investors are straight municipal bonds of established cities, and bonds or notes of our established railroads and public service corporations. Remember that the best are none too good, and that it is absolutely impossible for the *permanent* investor to obtain with perfect safety more than four and one-half per cent or, with a satisfactory degree of safety, more than five per cent over a long period of time. However, these rates are in excess of what banks pay, and therefore one should be contented with such a yield.

Buy Only Outright and Avoid Margin Purchases.

The second principle which the investor should thoroughly believe is the fact that it is very unwise to buy on a margin, or in fact, to borrow to make

a purchase of securities. Of course, it is very easy to select instances where men have made money by borrowing, in order to buy more securities than they could pay for; but for every such case, ten instances can be cited where the purchaser would have been better off not to have borrowed the money.

There are tricks to every trade, and there is no easy way to beat a man at his own game. Therefore, just remember when urged to buy more than you can pay for, that probably someone is trying to unload. Moreover, the small investor ought to remember always that he is simply a *permanent investor*, who does not borrow money with which to buy. If one is buying simply as a permanent investment, for the income to be derived, he need not borrow the money to take advantage of present offerings. There is usually always a sufficient supply of bonds. In answer to a remark about the unfortunate state of affairs caused by crop failures, one of the keenest old-school bond men of this country, a partner in a Cincinnati municipal bond house, said, "Da ist ein crop dat neber gibs out, und dat ist die bond crop."

The man with a clean character, good health, and with no notes outstanding is in an impregnable position; but as soon as he begins to borrow, whether to carry on mercantile business or to build houses or buy securities, his troubles begin and somebody has a "rope around his neck." Therefore, the second fundamental principle needed to

create a fortune is to keep always the position of the creditor, and never get into the position of the borrower.

Buy Whenever You Have The Money.

Until the investor has accumulated a sufficient amount of money and training, and is able to spend a reasonable amount of time and money in study, it is unwise for him to give much attention to price movements. Many men, inexperienced in the investment of money, follow the quotations until they see by the daily papers that a panic exists, that banks are closing, great corporations failing and stocks very low, believing that at such a time they will heavily invest. Others believe that it is a simple matter to buy securities to-day and hold them until their country is bounding in great prosperity, with tremendous crops, tremendous railroad earnings and general booming trade throughout the land, when they will sell these stocks.

Theoretically this is very good; but practically all investors of the fourth class who are waiting for this panic to come before purchasing, would be among the most panic stricken when the time arrives, and would be unwilling to buy United States government bonds at fifty cents on the dollar if they had the opportunity. Moreover, when the period of prosperity comes, during which time they expect to liquidate, they will feel that there is a still greater period of prosperity coming and, instead of selling, they will probably buy more securities at that time. In other words, for anyone who

is not fortified by a personal knowledge of the exact fundamental conditions, to take advantage of these great price movements is almost an impossibility. As to the reason for this, one must refer to psychologists for an answer. Not only are the psychological laws against such uninformed men, but all our training and hereditary instinct causes us to follow instead of to lead. It is almost as difficult for the untrained man to buy stocks when everyone else is selling, as it was to be a Christian in the days of Nero. In our dress, our food, our mode of travel, our sports, and in all our habits, we are almost forced to follow the customs as did our father, grandfathers and other ancestors for scores of generations back. Therefore, whatever one's resolves may be—unless fortified by a definite, constant study of fundamental conditions—he will be found buying when everyone else is buying, namely: at the very top, and selling when everyone else is selling, namely: at the very bottom.

The only safe method for the investor with two or three thousand dollars is to ignore price movements, and simply invest in the outright purchase of some good seasoned bond whenever he has idle money, and if possible at regular intervals. There is no use trying to overcome in a few years a trait which has been inherited from twenty generations. Besides, those who invest in this way at regular intervals obtain their securities at fair average prices in the long run. Sometimes such persons buy securities when they are high and other times when they are cheap; but in the long run, it averages up very well.

One more fact on this point is that these uninformed investors are always equally divided as to whether prices are high or low. That is, when fundamental conditions show plainly that securities should be either bought or sold, the small investors are equally divided in their own mind, about one-half of them itching to buy something and about one-half itching to sell something.

Conclusion.

The French peasants best illustrate this fourth class and it is due to them that France is so very strong financially today. The French people do not trade in stocks as do the Americans, and they very much dislike our gambling spirit. They are very thrifty and although they will not borrow to buy—yet they always buy a bond as soon as they save one hundred dollars.

An hour spent in the Safe Deposit Vaults of the *Crédit Lyonnaise* in Paris, which is probably the largest of its class in the world, gives an excellent opportunity of mingling with the people and affords a most impressive sight. Once in a while a person of apparent wealth comes in; but most of them are apparently in very humble circumstances.

There are scores of men in their overalls, and market women with shawls tied about their heads, and even the street sweepers have their boxes with one or more bonds. One instance is known where a man actually stood his broom up by the side of the table as he cut the coupons from some Russian bonds he owned.

It is of course impossible to give a separate room for the use of each person when cutting off these coupons, as is done in this country. The rooms are large with large tables in the centre, each table being divided into ten or more little compartments like the tables used by telegraph operators; but this makes the sight even more impressive.

This shows at a glance why France is able to absorb our surplus issues provided they are absolutely good, and in one hundred dollar denomination in order that they may invest as fast as they save the money. Bonds of the Pennsylvania R. R. Co. and of the New York, New Haven & Hartford R. R. Co. are very attractive to the French peasants now, as they may be bought over there in denomination of one hundred dollars. In fact, not only are the French ideal savers, but they very closely follow the three rules suggested above, namely:

(1) Buy only the best seasoned securities, preferably municipals and underlying corporation bonds.

(2) Buy only outright and avoid all margin purchases.

(3) Buy at regular intervals whenever having the money.

Some may think that this is over-conservative advice, and it may not be according to the reader's liking; but experience has shown this to be well founded. There are many, however, who are anxious to get into class three and take advantage of the long, broad price movements; but one should prepare a good foundation before erecting a high

building. There is no royal road to wealth. Everyone must enter and graduate from the preparatory school and first acquire, through hard work, study and systematic saving, a necessary amount of capital and experience. Moreover, in order to acquire his first capital and experience, so as to erect his fortune, he must build the foundation on these three fundamental principles herein emphasized, following the French peasant as closely as possible.

In fact, if there were a way of always knowing what these peasants are buying it would be a very good rule for Americans to do likewise. Of course, the fact that a stock is listed in Paris or bonds are "being offered abroad," is no reason that the French will be tempted thereby, as such a listing in Paris may be simply for the purpose of interesting Americans on this side. When, however, one knows that some issues like the Pennsylvania R. R. or the Baltimore & Ohio R. R. are actually being purchased by these French peasants, Americans can make no mistake in placing their savings in the same securities. At first thought this seems a curious statement to make; but we go to Paris to study art, and to Germany to study medicine and to Italy to study music. Therefore, why not learn the art of the saving and the permanent investing of money from the French, since they are the world's greatest exponents of the three fundamental principles herein mentioned.

CHAPTER IV.

THE INVESTOR'S VOCABULARY.

Ten Words, The Meanings Of Which Should
Be Thoroughly Understood By
Every Investor.

WHENEVER a large bond issue is publicly offered for sale in the leading newspapers and magazines, brokers are always asked certain questions relative to the meaning of various phrases used in their advertisements. A large number of advertisements of leading issues have been accumulated, and the various phrases assorted in order to select those most generally used (although commonly misunderstood) by many investors. The result of this work has been the selection of ten phrases which in a way explain ten characteristics of bond issues, all of which are herewith briefly described.

The bond houses, when preparing advertisements, should give more attention to the small investor and prepare the copy of their advertisements with him more in mind. It is true that these advertisements are readily comprehended by the trained banker and large investor; but many of them are almost incomprehensible to the investor who is unacquainted with the technical phrases and terms employed. As the great need to-day of our corporations and bankers is to extend the market for bonds among the small investors, it is especially desirable

that this suggestion be given most careful attention at this time.

The Principal of a Bond.

All bonds are divided into two main divisions, namely, coupon bonds and registered bonds. A *coupon* bond consists of two parts, the principal and the coupons. Usually it is made up of two sheets of paper bound together, one sheet containing the note or written obligation which represents the principal, and the other sheet is made up of coupons. A *registered* bond, moreover, is simply the above described without the coupons; that is, a registered bond consists of the sheet for the principal, so to speak, which in such a case is known as a *certificate*.

The "Principal" of a bond is in reality a "promise to pay," and corresponds with the note which a man gives with a mortgage. This note usually is for \$1,000 and mentions that the security of this note and a certain number of similar notes, amounting in the aggregate to so many thousand dollars, has been secured by a mortgage on a certain property to a certain trust company as trustee.

The theory of the principal of a bond, so to speak, is that if one should cut off the coupons from a bond due April 1, 1934, and then lose the "principal"—that is, the certificate containing the note—the finder of this principal could collect no interest, and in fact could do nothing with said "principal" until April 1, 1934, when he could collect \$1,000.

The following is a copy of the principal appearing on the first sheet of a well known railway bond.

Copy of The "Face" of a Bond.

THE————RAILWAY COMPANY

No.	First and Refunding Mortgage Gold	No.
—	Bond Interest Four Per Cent	—
	Per Annum.	

The————Railway Company, hereinafter called the "Railway Company," for value received, hereby promises to pay the bearer, or if registered, to the registered holder of this bond, the sum of ONE THOUSAND DOLLARS in gold coin of the United States of America, or equal to the present standard of weight and fineness, on the first day of April in the year. One Thousand Nine Hundred and Thirty-four, at its office or agency in the city of New York, and to pay interest thereon, from the first day of April, A. D. 1904, at the rate of four per cent. per annum, payable semi-annually at said office or agency in like gold coin on the first day of April and October in each year until the payment of said principal sum and until the presentation and surrender of the interest coupons hereto annexed as they severally mature. Both the principal and the interest of this bond are payable without deduction for any tax or taxes which the Railway Company may be required to pay or to retain therefrom under any present or future law of the United States of America, or of any state, county or municipality therein, the payment of which tax or taxes the Railway Company hereby

assumes. This loan is one of a series of coupon bonds and registered bonds known as "First and Refunding Mortgage Gold Bonds" of the Railway Company, authorized to be issued to an amount not exceeding in the aggregate, the principal sum of One hundred and sixty-three million dollars at any one time outstanding.

All of said bonds have been or are to be issued, and are or are to be equally secured by a mortgage and deed of trust dated April 1st, A. D. 1904, executed by the Railway Company to the..... Trust Company of New York and..... of....., as Trustee, to which mortgage and deed of trust, reference is made for description of the properties and franchises mortgaged and pledged in the nature and extent of the security, and the rights of the holders of said bonds under the same, and the terms and conditions upon which said bonds are issued and secured. This bond shall pass by delivery unless registered in the owner's name in the books of the Railway Company, such registry being noted on the bond by the Railway Company. After such registration no transfer shall be valid unless made in such books, and by the registered holder in person, or by his attorney duly authorized in writing, and similarly noted on the bond, but the same may be discharged from registry by being in like manner transferred to bearer, after which it shall be transferable by delivery, but this bond may again, from time to time, be registered or transferred as before. Such registration, however, shall not effect the nego-

tiability of the coupons, but shall continue to be transferable by delivery. The holder thereof, at his option, may surrender this bond, with all unmatured coupons attached, for collection and exchange, for a registered bond without coupons, and such registered bond may hereafter be re-exchanged for a coupon bond as provided in said mortgage and deed. The coupon bonds are numbered consecutively from 1 to....inclusive of the coupon bonds, so numbered that there shall always remain unissued an aggregate face amount equal to the aggregate face amount of the outstanding registered bonds of this issue. Each registered bond shall have endorsed thereon the serial number or numbers of coupon bonds remaining unissued on account of such registered bond, and on surrender of any registered bond for cancellation and exchange for a coupon bond or bonds, the coupon bond or bonds issued in exchange therefor shall bear the serial number or numbers so endorsed on the registered bond. The bonds of this issue are subject to redemption at the option of the Railway Company at 105 and accrued interest on or at any time prior to April 1, 191—, on six days' previous notice as provided in said mortgage and deed of trust. No recourse shall be had for the payment of the principal or interest of this bond, or for any claim based thereon or in respect thereof or of said mortgage and deed of trust, against any stock holder, officer, or director of the Railway Company, either directly or through the Railway Company, whether by virtue of any statute or by enforcement

of any assessment or penalty or otherwise. This bond shall not become valid or obligatory for any purpose until it shall have been authenticated by the certificate hereon endorsed by the Trust Company at the time of the Trustees under said mortgage and deed of trust.

In Witness Whereof, the Railway Company has caused these presents to be signed by its President or Vice-President, and its corporate seal to be hereto affixed, attested by its Secretary or an Assistant Secretary, and coupons for said interest with the engraved signature of its Treasurer or an Assistant Treasurer to be hereunto attached, as of the first day of April A. D. 1904.

THE————RAILWAY COMPANY

by

by

Attest:————

————

Secretary.

President.

Advertisements usually state that “the principal is payable in gold,” which really means nothing so long as our nation is on a gold basis. In fact, Thomas A. Edison says that bonds would be much better if payable in wheat, iron or wool. Advertisements of bond issues also state the “denomination”—that is, the “size” of the principal. Most bonds are in denomination of one thousand dollars which is the case of the bond in the foregoing illustration. Some issues, however, are in denomination of five hundred dollars and a very few in denomination of one hundred dollars. In short, the

denomination shows the *minimum* amount of money which can be invested in a given issue.

The Coupons.

As the above bond is due April 1, 1934, there are now many coupons remaining to be cut off, and each coupon reads the same, except for the date when it is to be paid. These dates differ in the following manner: the next coupon to be cut off, we will assume, is due October 1, 1912, the next is due six months later or April 1, 1913, the next, six months later or October 1, 1913, and so on, the final coupon being due April 1, 1934. Each of these coupons call for the payment of \$20. which is six months interest at 4% on \$1,000.

The coupon in detail is as follows:

On the first day of October, 1912.

THE———RAILWAY COMPANY

will pay to bearer at its office or agency in the city of New York, New York, on surrender of this coupon TWENTY DOLLARS in gold coin without deduction for taxes, being six months' interest then due on its first and refunding mortgage gold bond unless said bond will have been called for previous redemption.

\$20

No. 250

Assistant Treasurer.

Therefore, "coupons" are practically checks of a corporation drawn and dated in advance. If a

man, when giving a mortgage on his house for three years should, in addition to making out the note, also make out six checks for the interest, these would correspond to the coupons of a bond. One might think that the holder of the note, could immediately deposit and collect all of these checks; but if he should attempt this, he would find that the bank would not honor them until on or after the date when they are due. It is the same with the coupons of a bond.

When the time arrives, however, for a given coupon to be due, it is simply necessary to cut it off and deposit it in the bank the same as one would deposit an ordinary check.

Stock Certificates.

Of course, if bonds did not bear a definite rate of interest it would be impossible to prepare these coupons in advance. The fact that stocks usually do not bear a definite rate of interest is the reason why stock certificates do not carry coupons. The dividend on a stock is subject to change and may be increased or decreased from time to time. Therefore, the purchaser of ten shares of stock receives simply the principal, so to speak, without any coupons. This principal, however, is not a note such as the purchaser of a bond receives, but rather simply a "certificate of part ownership in the business," and therefore this is technically known as a "certificate." The holder of certificates of stock receives his interest by checks direct from the treasurer of the company. Consequently, in

the case of corporations which declare six per cent. dividends, payable semi-annually, January and July, the holder of a certificate of ten shares of stock receives every six months a check for \$30. This, of course, he deposits in his local bank, the same as he would deposit any check which he receives, or the coupons which he cuts from his bonds.

Therefore, it will be seen that the first three terms with which the investor should become acquainted are, "Principal," which refers to the *note* of the bond, "Coupon," which refers to the interest of the bond, and "Certificate," which refers to the evidence of ownership of a *stock*. However, it should be constantly in mind that this certificate of stock is not a promise on the part of the railroad company to pay any sum at any definite time, but shows only that the holder thereof has a certain "part interest" in the business. In fact, the holder of a certificate of stock is, in a way, liable for the payment of the notes or the bonds of the corporation in which he is a stockholder. The following is the wording of a certificate of stock.

Incorporated under the Laws of _____
 No. _____ Shares
 THE _____ RAILWAY COMPANY, INCORPORATED
 Capital Stock \$.....

This Certifies that _____ is the owner of _____
 Shares of the Capital Stock of the _____
 RAILWAY COMPANY, INCORPORATED
 transferable only on the Books of the Corporation

in person or by Attorney upon surrender of this Certificate.

In Witness Whereof, the duly authorized officers of this Corporation have hereunto subscribed their names and caused the corporate Seal to be hereto affixed this——day of——A. D. 191—.

_____,
Treasurer.

_____,
President.

SHARES \$100 EACH

—o—

Assignment on Back of Certificate.

For Value Received,——hereby sell, assign and transfer unto——Shares of the Capital Stock represented by the within Certificate, and do hereby irrevocably constitute and appoint
____Attorney to transfer the said Stock on the books of the within named Corporation with full power of substitution in the premises

Dated——19——.

in presence of

Unlike bonds (unless these certificates are registered) the name of the party holding the stock should be written on the face of the certificate. Therefore, before a stock certificate can be sold, it must be assigned to some other person. For the purpose of such an assignment, there is usually a blank on the back of each certificate which must be filled in, before the treasurer of the company will

cancel said certificate and issue a new certificate in the name of another party.

An investor, however, when selling stock represented by a certificate need usually sign his name only at the bottom of the transfer blank with a date and a witness, leaving the broker to fill in the rest of the blank. Of course, if the certificate is for twenty shares, and it is desired to sell only ten shares, then the investor may signify on the back of the certificate, in connection with the transfer blank, that he desires to transfer only ten shares of the within mentioned stock. In such a case the broker will fill in the name of the party to whom the ten shares are to be sold, and the treasurer of the company will then make out two certificates of ten shares each. One of these certificates will be issued in the name of the new party, and the other in the name of the original holder.

Registration.

In the above description of the printed matter which appears on the two sheets of a regular bond, no mention has been made of what appears on the reverse side of said sheets. In the case of the coupons, there is usually a number on the back of each coupon, corresponding with the number of coupons that have been cut off. This number enables coupon clerks, or the treasurer of the corporation, to know quickly, without reference to the date, whether or not any person is attempting to cash a coupon before it is due. In the same way the number on the face of the coupon serves to trace

lost and stolen bonds, as it is the number corresponding to the number on the principal of the bond.

The reverse side of the sheet containing the principal of the note is used for an entirely different purpose, and contains a blank form used for purposes of registration. Of course, there are some issues which do not have this blank form, and therefore cannot be registered in any way; but most bonds have a blank form of some kind, and therefore are entitled to one of the following four forms of registration, viz.:—

(a) *Registration as to principal only*—that is, the principal when due will be paid only to the party whose name is written on the back of the bond.

(b) *Registration as to principal and interest*—that is, the principal and also the interest will be paid only to the party whose name appears on the bond. In this latter case, the coupons are cut off by an officer of the company and all interest is thereafter paid by check, as in the case of a note.

(c) *Plain registered bonds*.—In this case, instead of writing the holder's name on the back of the bond, a new registered bond is given in exchange for the coupon bond. These registered bonds look like stock certificates.

(d) *Interchangeable*.—In this case any one of the above forms may be exchangeable for any other form. This is the latest and most approved method of registration.

The main reason for these different forms of registration are as follows:

An ordinary coupon bond, payable to bearer, if lost is the same as lost money and whoever finds it can, if not detected, dispose of it.

(a) If *registered as to principal*, the finder can dispose of only the coupons every six months and not the bond, and so cannot collect the principal at maturity. Moreover, if the owner has a record of the bond's number, the finder can be traced if he deposits said coupons.

(b) If *registered as to principal and interest*, the finder cannot collect any coupons, as the interest is sent by check to the registered holder direct; nor can the finder collect the principal at maturity, as this will be paid by check drawn payable to the party in whose name the bond is registered.

(c) If a *plain registered bond*, it would be treated the same as (b).

For trust funds and permanent investments, bankers recommend either class (b) or class (c); but for ordinary investors, class (a) is very satisfactory. An ordinary coupon bond, principal and interest payable to bearer, allows the free use of the coupons and still protects the holder, it being comparatively easy to trace such theft, and the finder could probably never cash more than one coupon.

The vast majority of investors do not register their bonds in any form, as many have safe deposit boxes in which to keep them, and careful investors should always keep a record of the name and num-

ber of all bonds owned. Whether or not it is best to have a bond registered, and if so, in what form, depends very much upon whether or not the bond is to be a permanent investment. Nevertheless, it is well for the small investor to purchase only such bonds as can be registered in one of the three ways and if possible, bonds that are also *interchangeable*.

Moreover, if at any time an investor desires a bond registered, he must not write any name on it himself. A bond salesman will send an investor full particulars as to how and to whom to send a bond for registration. The investor should either send it through his local bank by express insured, taking a receipt therefor, or else if the firm whom the salesman represents is located in his own city and strictly reliable, take it to said firm, obtaining a receipt therefor and arrange with them to have it registered. The investor should clearly understand, however, that the same trouble and care must be exercised if at any time he desires to dispose of the bond or borrow on it, or make it payable to some other party.

Which of the above forms of registration any special issue possesses, is almost always mentioned in the advertisements or circulars describing an issue, and most of the new, large issues are described as follows: "The bonds are issued either as Coupon or Registered Bonds and are Interchangeable." This means that the holder may have a regular *coupon* bond, with both principal and interest payable to bearer; or a registered bond in the form of a certificate, with his name written

thereon, and the interest payable by check; and in addition, either form may at any time be exchanged for one of the other forms. This is the case with the bond, a copy of which is given in the foregoing illustration.

“Accrued” or “And Interest” Prices.

Another phrase most common to these bond advertisements is as follows: “Price 105-1/2 and accrued interest to delivery.” Assuming that the bonds are in denomination of \$1,000 each, this means that the bonds may be purchased for \$1,055 plus the accrued interest to date of delivery. If bonds had coupons attached for each day, instead of each six months, there would be no need of the seller adding the accrued interest to the price of the bond, as he could cut off the coupons up to the day of delivery.

In the case however of a bond, the coupons of which are payable we will say only on every January 1st and July 1st, covering six months' interest, there would be no accrued interest for the purchaser to pay on the first day of January or on the first day of July. Assuming, however, that these coupons are for thirty dollars each, on the first day of February the next coupon to cut off becomes worth five dollars, so to speak, because the purchaser of the bond has only five months to wait for his interest instead of six. Therefore, it is only just that a man who waits until the first of February before investing his \$1,000 should pay five dollars more for the bond than the man who invested his \$1,000

on January 1st preceding, because the first man has had his \$1,000 for his own use during the entire month of January.

If the purchaser of the above mentioned bond buys the same April 1st and the price is "105-1/2 and accrued interest," he pays \$1,055 plus the accrued interest for three months at 6% which is \$15.00, making a total of \$1,070. Therefore, "and accrued interest" price means that the buyer pays the seller the interest which has accumulated since the last coupon was paid. But the buyer receives the interest back when the next coupon becomes due, for the coupon represents the interest to be paid on the bond for the entire period between interest payments.

Flat Prices.

A "flat" price, on the other hand, is the price quoted that includes the interest from the time of the last payment of interest to the time of selling. For example, if the "flat" price of a bond is \$970, the actual price might be \$950 with twenty dollars interest added. Since January 1st, 1909, all bonds bought or sold on all the leading Exchanges are sold "and interest;" that is, the purchaser is obliged to pay the accrued interest when he buys such bonds and receives any accrued interest when he sells them. The interest is always figured at the rate of 30 days to the month, excepting possibly for the partial month. Income bonds and defaulted bonds are still sold "flat."

Another point to remember, is that interest is

always figured up to, but not including, the day of payment. To illustrate:—if on April 1, 1909 an investor purchased at 102 “and interest” a \$1,000 Chicago, Burlington & Quincy 4% Bond, the coupons of which are payable January 1 and July 1, he paid \$1,020 “and interest” from January 1st to April 1st, at 4% or \$10, making \$1,030 in all. Moreover, if he paid the money on April 1st, the dealer would not count the interest for said day but would stop with the close of the preceding day. In other words, if an investor pays for a bond in March 21st, the dealer figures only two months and twenty days interest.

The Yield of Securities.

When considering the price of securities, there are two factors to consider; namely, the *premium*, that is, the percentage above par at which the securities are selling; and secondly, the *rate of interest* which is paid on the par value. In the case of stocks, these are the only two items necessary to know in order to figure the *net yield*. In fact, it is necessary only to divide the total income received in the form of dividends during one year by the amount of money paid for the stock. If, for instance, ten shares of stock paying a total dividend of \$40 a year are purchased for \$1,000, this stock will yield 4%. If the ten shares are purchased for \$1,200, it will be found that the stock yields only 3-1/3%; while if the shares are purchased for \$800, it will be found to yield 5%. This is because in the first case the stock was bought at par; because

in the second case it was bought at a premium at 20%, while in the third case it was bought at a discount of 20%. For quick reference purposes, the following table is very useful in quickly obtaining the yield of any stock:

Rate of Income on Stocks.

Purchased at following prices—par value \$100—
and bearing interest at following rates.

Paid	2%	3%	4%	5%	6%	7%	8%	10%
\$ 50	4.00	6.00	8.00	10.00	12.00	14.00	16.00	20.00
52½	3.81	5.71	7.62	9.52	11.43	13.33	15.24	19.04
55	3.63	5.45	7.27	9.09	10.91	12.72	14.55	18.18
57½	3.48	5.22	6.96	8.70	10.43	12.17	13.91	17.40
60	3.33	5.00	6.67	8.33	10.00	11.67	13.33	16.66
62½	3.20	4.80	6.40	8.00	9.60	11.20	12.80	16.00
65	3.08	4.62	6.15	7.69	9.23	10.77	12.31	15.38
67½	2.96	4.44	5.93	7.41	8.89	10.37	11.85	14.82
70	2.86	4.29	5.71	7.14	8.57	10.00	11.43	14.28
72½	2.76	4.14	5.52	6.90	8.27	9.65	11.03	13.80
75	2.67	4.00	5.33	6.67	8.00	9.33	10.67	13.35
77½	2.58	3.87	5.16	6.45	7.74	9.03	10.32	12.90
80	2.50	3.75	5.00	6.25	7.50	8.75	10.00	12.50
82½	2.42	3.65	4.85	6.06	7.27	8.48	9.70	12.12
85	2.35	3.53	4.71	5.88	7.06	8.24	9.41	11.76
87½	2.29	3.43	4.57	5.71	6.86	8.00	9.14	11.42
90	2.22	3.33	4.44	5.56	6.67	7.78	8.89	11.11
92½	2.16	3.24	4.32	5.41	6.49	7.57	8.65	10.82
95	2.11	3.16	4.21	5.26	6.32	7.37	8.42	10.52
97½	2.05	3.08	4.10	5.13	6.15	7.18	8.21	10.26
100	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00
102	1.96	2.94	3.92	4.90	5.88	6.86	7.84	9.80
104	1.92	2.88	3.85	4.81	5.77	6.73	7.69	9.62
106	1.88	2.83	3.77	4.72	5.66	6.60	7.55	9.44
108	1.85	2.78	3.70	4.63	5.56	6.48	7.41	9.26
110	1.82	2.73	3.64	4.55	5.45	6.36	7.27	9.10
115	1.74	2.61	3.48	4.35	5.22	6.09	6.96	8.69
120	1.67	2.50	3.33	4.17	5.00	5.83	6.67	8.33

Paid	2%	3%	4%	5%	6%	7%	8%	10%
125	1.60	2.40	3.20	4.00	4.80	5.60	6.40	8.00
130	1.54	2.31	3.08	3.85	4.62	5.38	6.15	7.70
135	1.48	2.22	2.96	3.70	4.44	5.19	5.93	7.40
140	1.43	2.14	2.86	3.67	4.29	5.00	5.71	7.14
145	1.38	2.07	2.76	3.45	4.14	4.83	5.52	6.90
150	1.33	2.00	2.67	3.33	4.00	4.67	5.33	6.66
155	1.29	1.94	2.58	3.23	3.87	4.52	5.16	6.46
160	1.25	1.87	2.50	3.12	3.75	4.37	5.00	6.25
165	1.21	1.82	2.42	3.03	3.64	4.24	4.85	6.06
170	1.18	1.76	2.35	2.94	3.53	4.12	4.71	5.88
175	1.14	1.71	2.29	2.86	3.43	4.00	4.57	5.72
180	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.55
185	1.08	1.52	2.16	2.70	3.24	3.78	4.32	5.40
190	1.05	1.58	2.11	2.63	3.16	3.68	4.21	5.26
195	1.03	1.54	2.05	2.56	3.08	3.59	4.10	5.12
200	1.00	1.50	2.00	2.50	3.00	3.50	4.00	5.00

Example: A 6-per-cent stock selling at 82-1/2 yields 7.27.

Look down 6-per-cent column until opposite 82-1/2.

Yield of a 12-per-cent stock will be double a 6-per-cent stock at the same price.

In the case of bonds, however, there is an additional feature besides the two above mentioned; namely, the date of maturity of said bonds. A stock is an *equity* which never matures nor becomes due; but a bond is an *obligation* which becomes due at a definite price and on a definite date. Therefore, a 4% *bond* purchased at 80 is considered to yield more than a 4% *stock* purchased at 80; although in order to ascertain the yield, it must be known when said bond matures. If the above mentioned 4% bond selling at 80 matures in ten years,

this bond will yield approximately 7% instead of 5%. This is because, in addition to the 5% figured on the same basis as one figures the income on stock, there is an additional yield, owing to the fact that when said bond becomes due in ten years, the purchaser thereof will receive \$1,000 instead of \$800, giving a "bonus" of \$200. This bonus divided by the number of years, namely ten, makes an additional income of \$20 per year, which added to the original \$40 per year makes a total theoretical income of \$60 a year.

Of course, this is a very rough method of calculation, there being a number of features, such as interest upon interest and other important items which should be considered. In fact, to obtain the correct yield of any given bond, one should refer to the prepared tables of bond values which may be obtained through any bond house, and which are worked out accurately by logarithms. In the case of odd divisions—such as 100 divided by 3—*absolute* accuracy is never reached, although the further the decimal is carried out, the greater the accuracy. A table of Bond Values with the decimals carried out seven places is therefore more accurate than a table with the decimal only three places, and in large transactions, it sometimes makes a great difference to the buyer or seller. With slight instruction, an investor can use the tables and find out any yield for himself.

In this connection it is interesting to emphasize a fact that every one ought to know and keep constantly in mind that *the yield on any investment,*

no matter what it is, is based on the amount of money invested in the enterprise, not on the principal, as for example, the principal of a bond.

The following rules relative to yield are self evident:—

(a) Bonds selling at a *discount*, yield more as the price becomes less; as the rate is increased and *as the length of time before maturity is shortened.*

(b) Bonds selling at a *premium*, yield more as the price becomes less, as the rate is increased and *as the length of time before maturity is lengthened.*

A very successful banker gives the following advice:

“When rates of interest are high and bonds are cheap, buy long term bonds running say 30 or 50 years, and “non-callable.”

“When rates of interest are low and bonds are high, buy short term bonds maturing in from one to three years and non-callable.”

Sinking Funds.

Often in bond advertisements, the bonds are referred to as “Sinking Fund Bonds.” This means that each year, after a certain date, a certain sum of money is supposed to be set aside either for the purpose of having a partial fund on hand to redeem said bonds when they mature, or else to redeem a certain portion of them each year. In the latter case, the bonds must also be known as “Callable” or “Redeemable” as well as “Sinking Fund Bonds.” Some of the leading financiers do not care for the sinking fund feature, but much prefer

“Serial Bonds,” as in the latter case, each holder knows definitely when his bonds are to be paid. This eliminates not only the uncertainty of having one’s bonds called in for payment at an inopportune time, but in addition prevents the company from losing the sinking fund before the bonds mature.

Therefore, up to a very few years ago there were practically no serial bonds on the market, and either no provision was made for the redemption of bonds or else a sinking fund was accumulated and invested from time to time until the bonds matured. In the latter case, either a few bonds were called by lot every year, or a like fund was allowed to accumulate until the bonds matured. In the case of towns, municipalities and counties, the latter method was generally pursued and these sinking funds have often been the source of great graft and dishonesty among public officials. Now, however, this temptation has largely been eliminated through the issuance of serial bonds whereby certain definite bonds must be paid or cancelled each year.

Excepting in the case of mining companies and corporations whose property naturally deteriorates, sinking fund bonds have no great advantage to the purchaser, and other circumstances being the same, sinking fund bonds are no better secured than bonds without a sinking fund. In other words, if a bond is not well secured without a sinking fund, it is generally true that no sinking fund will make it safe; excepting, however, in the case of mining companies where the actual security for the bonds

is being sold. As to the advantages and disadvantages of a sinking fund, the following concretely expresses the case:

Advantages (1) A Sinking Fund enables a company to reduce its bonded indebtedness by buying and cancelling its own bonds.

(2) Bonds secured by a sinking fund are usually secured by closed mortgages, and therefore have a greater prospect of becoming underlying liens.

Disadvantages (1) If a corporation is able to provide a Sinking Fund, its bonds are perfectly good without such a fund.

(2) When sinking funds are arbitrarily required, there is a temptation to deduce maintenance charges to a minimum, and this retards a healthy growth and development.

Callable or Optional Bonds.

Another word often appearing in bond circulars is the word "callable." When a 5% bond that is due in 50 years is "callable" or "optional" in 10 years, this means that if in ten years, rates are low and the credit of the company is high, the company will exercise its option of paying the bonds at par or some other figure (which is always less than their intrinsic value) and issuing in their stead a 4% bond. This fact not only places an absolute limit upon the premium at which the bonds can ever possibly sell, but also results in the investor being paid his money at the most unfavorable time when it is impossible to re-invest it on favorable terms. In other words, bonds are "called" only

when money rates are low and the prices of bonds are high. Moreover, if the company "calls" the bonds to pay them because their credit has so improved that they can issue bonds at a lower rate, this simply means that, if the bonds become very good, they will be paid, but if the company's credit becomes unsettled and their bonds unmarketable, then they will not be paid. In other words, if it is to the advantage of the holder not to have them paid, they will be paid; but if it is to the advantage of the purchaser to have them paid, they will not be called. Therefore, whether they are paid owing to lower rates of money or to the improved credit of the company, the holder is the loser and the company the gainer.

For this reason, many investors prefer not to purchase "callable" or "optional" bonds, excepting in the case of certain industrial companies such as manufacturing or mining companies where the assets are always growing less, and a sinking fund is absolutely necessary. This, however, brings up the question whether or not it is ever advisable to buy a bond of an issue where a sinking fund is absolutely necessary, in order to preserve the security of the issue. Another, though less serious objection to "callable" bonds is that instead of being definitely called by number in order beginning with No. 1, they are usually called by "lot." This means that often the holder does not know until sometime afterwards (when he is depositing a coupon) that the bonds have been "called." In fact, the first notice often consists of a return of

the coupon with a notice that "the bond was called six months ago." This means that the holder must, in addition to the trouble involved, lose six months' interest. As to the relative advantages and disadvantages of this callable clause, the following fairly states the case:

Advantages: (1) The investor often receives up to the time the bonds are "called," a higher rate of interest than he would receive with the same security, without the optional feature.

(2) An optional feature enables the company to create a Sinking Fund which is always desirable.

Arguments Against: (1) The bonds will never be called when other bonds are cheap or if the credit of the company is poor, but may be called if other bonds are high and the credit of the company is good.

(2) The advantages of Sinking Funds may be obtained without the necessity of having the bonds of a company "callable."

It was mentioned above that advertisements sometime state that the bonds are "callable" or redeemable at a certain price on or after a certain date. For instance, the bond used in the above illustration was redeemable at 105 and interest; although since April 1, 1911, the company has lost this privilege. A large part of the United States Government Bonds are redeemable at par on or before a certain date, all of which is explained in the respective advertisements of the various issues.

The Trustee, Mortgage and Legal Opinion.

In studying the advertisements of bond issues, two other features are noticed, namely; (1) the advertisement always states the name of the trust company which is acting as trustee, that is, who stands between the various individual bond holders scattered all over the country and the corporation issuing the bond, assuring justice to both interests; and (2) the advertisement states what attorneys have passed upon the legality of the issue.

When dealing with individuals, one personally takes their note, and the borrower mortgages his property direct to the lender. If an entire bond issue could be taken and personally held by one individual permanently, only two parties would be necessary and the company could mortgage its property directly to the individual who loans the money. In practice, however, an issue of bonds is divided up among many individuals, and as the bonds are payable to bearer, the company often does not know the names of these individuals.

Therefore all bonds are nothing more than notes made payable to bearer, sometimes secured and sometimes not. Mortgage bonds are the same as notes which accompany a mortgage. If a mortgage on a house is to be for \$10,000, the borrower can as well give to the mortgagee ten notes, payable to bearer for \$1,000 each, as to give one note for \$10,000. These notes, therefore, may be distributed among a number of different persons.

The mortgage cannot be divided up and held by a large number of individuals; and therefore it is

necessary, in the case of a bond issue, to select some neutral and impartial third party who will act as trustee, and to whom the company will mortgage its property for the interests of all who hold the bonds or notes, at any given time.

For this reason, three parties are usually connected with every mortgage bond issue. This, by some, is given as the distinguishing feature between a company's note or its commercial paper, and a company's bond issue. These three parties are:—

1. The company or mortgagor which receives the money.

2. The bondholders or the persons who loan the money.

3. The trustee or bank which is technically the mortgagee, but solely in the interests of the bondholders who loan the money.

If the bonds are mortgage bonds, the advertisement of the issue states that the purchaser may obtain a copy of the mortgage securing the issue. Very few investors ever take the trouble to read these mortgages before purchasing; but it is a very good idea for all investors to have them on file. This is especially important for banks and institutions purchasing large blocks, and as above stated, it does no harm for even the small investor to request that a copy of the legal opinion, engineer's report, mortgage and other papers which the firm has on hand, be sent along with the bond ordered.

In advertisements of bond issues, we also see stated, "We have the Legal Opinion of, a copy of which may be seen at our office." No sane

man would think of investing \$5,000 in a local real estate mortgage without having an attorney's opinion upon that title, form of mortgage, etc. Therefore, careful investors should use the same care when investing in bonds. All reliable and established bond dealers have these opinions on file, and will gladly give copies together with a descriptive circular of the bonds. In case any unforeseen trouble arises, these papers are often a great help in enabling the investor or his heirs to study the conditions and decide what action to take. In this connection it may be well also to mention the meaning of the word "escrow." Some advertisements state, for instance, that the issue for "\$5,000,000 with \$3,000,000 outstanding and with \$2,000,000 held in escrow." Of this \$2,000,000 held in escrow, \$1,000,000 are held for retiring underlying liens, and the balance for improvements, additions, etc., under proper restrictions. Therefore, the word "escrow" is in reality simply a synonym for the word "reserve."

Guaranteed Bonds.

The final feature which we have not yet covered is the question of guarantee. Many bonds are advertised as being "guaranteed both as to principal and interest." The question of guarantees is a very important one, and it should be treated in an article by itself. Sufficient it is to say, however, that there are very few issues which, if not perfectly good of themselves *without* a guarantee, are not good *with* a guarantee. It has usually been found

that if a company believes a bond to be good, it is willing to guarantee it, and in such a case, the guarantee does not usually add to its strength. On the other hand, if the bond is not good of itself, a company often endeavors to discover some method by which it can break its guarantee. Therefore, no bonds should be bought simply on the strength of their guarantee, but rather should be judged for their value irrespective of the guarantee. If the bonds are perfectly good without any guarantee, it is, of course, an additional advantage and an additional safe-guard to have the bonds guaranteed; but bonds which are good simply on account of their guarantee are usually not very attractive purchases. This is especially true of bonds which are simply guaranteed as to principal and not as to interest.

Three Classes of Commercial Paper.

Commercial paper is really issued for three purposes, viz. :—

(1) To provide additional, permanent or semi-permanent capital for carrying a large stock of merchandise, if not assets of a more fixed nature.

(2) To enable the borrower to give greater credit to buyers.

(3) To carry a firm over “the peak of its load” which “peak” almost every business has.

The ablest bankers do not believe in commercial paper issued for the first mentioned purpose. They care not how large or how small a firm’s capital is, provided it is in the form of contributions

by members of the firm if it is a firm, or in the form of capital stock, if it is a corporation. It is a mistake, however, for any manufacturer, merchant or storekeeper to borrow money on notes for an increased capital. Such notes, it is necessary to renew continually when they become due, and a firm or corporation which has issued notes for capital for any length of time finds it almost impossible to break away from the habit. It is a bad habit, and is at the bottom of commercial failures today. It is comparatively easy to borrow money; but it is a vastly different thing to pay up the notes. As a good, hard headed business man used to say, "If you want to have the winter last but a short time, discount a four months' note about the first of November." Although the majority of commercial paper today belongs to the first class, yet its purchase should not be advised. Borrowing money for permanent, merchandise capital requirements should always be opposed.

The second class of commercial paper, that issued for enabling a firm to increase its accounts receivable, should in many cases be treated the same as the first class above mentioned; but there are exceptions to this rule, and these exceptions depend largely upon the character of the accounts. For a manufacturer of millinery, an article which is very perishable and of large profits, to issue paper in order to increase its accounts receivable, does not seem very good business, as the accounts of certain small retail millinery concerns may not be especially attractive. On the other hand, for a

concern that deals in copper, pig iron or some other commodity, which over a comparatively few months fluctuates very little in price and is very marketable, to issue paper in order to increase its accounts receivable may be good business. Of course, when judging class two, it depends entirely upon the character of the firm issuing the paper, and each instance should really be decided independently on its own merits. Otherwise the loaner of the money had better purchase notes that are known as "receivables."

Receivables.

We will give herewith a brief explanation of what is meant by receivables: As an example, we will state an account of the transaction between a bank and a medium grade concern. A member of the latter once came to the aforesaid bank and wished to borrow \$10,000 in order to extend \$2,500 additional credit to four good customers. The bank did not wish to loan the money permanently for additional capital purposes, but if the concern in question would obtain four notes of \$2,500 each, one from each of the firms mentioned, endorse them and bring the notes to the bank, the bank would discount them. By doing this, three things were accomplished; first, it was shown that the money is to be used for increasing accounts receivable, rather than for buying more unsold merchandise. Second, there was some definite lien on a certain portion of these accounts receivable which were believed to be good, rather than an indefinite general interest in

them all; and third, the local firm was not liable for the payment of the notes except as a last resort. In short, the eggs were placed in four baskets instead of one, and all baskets were guaranteed by the local firm which endorsed all four notes.

Therefore, by "receivables," are meant notes which a firm has received in payment for goods sold, and which notes it endorses and discounts at some bank. Of course, some firms feel that it is poor policy to give these receivables, not desiring to give away their customers. Moreover, if one bank is given receivables, all banks loaning to the firm expect receivables likewise. Therefore, many large corporations refuse to give any of their customers' notes to their creditors, but keep said notes in their own vaults, refusing to use receivables on any account. Of course, for large firms this is an entirely proper practice; but smaller and medium grade firms which have not clearly established a high credit should not object to giving receivables when the money is desired for extending credits,—still less for *permanently* extending credits.

This brings us to the third class of commercial paper, where the money is borrowed simply for carrying a firm over its busy season. This is the kind of paper that the ablest bankers endeavor to purchase for their own banks, and which they should recommend to various other institutions. There are many illustrations of this third class of commercial paper; but perhaps the best is that issued by wool houses in Boston. These wool houses are obliged to buy wool in the summer, hold it for a

few months until the manufacturers take it off their hands, and often in the spring these houses have no wool whatsoever. Of course, they all have a large capital and this capital they often loan in the season when they are not carrying wool. In such a business however, it is almost as bad to have too much capital as too little. Consequently, the wool merchant begins in the summer to purchase wool with his own capital as long as the capital lasts, which is up to the "peak of the harvest time," when he borrows money with which to purchase more wool. This money is used for carrying him over the winter, and the first wool which he sells after the first of the year is used for paying up his notes, although he does not get his own capital from all the wool until it is almost time for another shearing.

The Best Kind of Commercial Paper.

It therefore will be seen that the best kind of commercial paper is that of firms who borrow only for a certain season of the year to carry them over "the peak of the load." Such firms have sufficient capital for their ordinary business, but desire an increased capital for three or four months. Rather than have a surplus of funds for eight months of the year, these firms feel that it is better judgment to borrow for four months of the year, and they are certainly justified in such a course. There is a manufacturer of hammocks in Gloucester, Mass., who spends eight months of the year in manufacturing these hammocks which are sold practically dur-

ing two or three summer months. Now, this firm feels justified in borrowing money for the large portion of the duck and labor consumed in the manufacture of these hammocks during the winter, paying up these loans in the summer time when the hammocks are sold. In short, the largest institutions in the country seek borrowers who "clean up" once a year and are entirely out of debt for a portion of the year, although it is but for two or three months. This money is not borrowed for permanent capital requirements and therefore, the bank is almost always sure to be able to get the money if it so desires when the note is due.

For the benefit of the borrowers, it may be stated here that the easiest way to establish a credit is to pay notes when they mature and never ask for an extension. So arrange your maturities and loans that when your notes become due, you can pay them, even if you must go back at the end of the time to re-borrow the money. Strange as it may seem, the average bank does not consider security or even a financial statement so much as it considers the moral risk, and by moral risk is meant the personal character of the borrowers and their record for paying notes when they become due.

CHAPTER V.

DIFFERENT CLASSES OF CORPORATIONS ISSUING SECURITIES.

BONDS are not only classified as to their form, but also as to the different functions of the corporations issuing them. That is to say, after one has decided to purchase a well-seasoned, underlying lien on some established property, he must then decide whether said property shall be railroad property, traction property, electric light property, gas property, telephone property or one of a score of the different forms of industrial properties.

Among the different classes of bonds issued by the different properties may be mentioned manufacturing bonds, coal bonds, steel bonds, irrigation bonds, timber bonds, real estate bonds, apartment house bonds, hotel bonds, mining bonds, and others too numerous to itemize. It is, however, a great question to decide as to in which of these various classes it is best to invest, and obtain as many as possible of the following five standard requirements:

- (1) Safety of principal and interest.
- (2) Good income.
- (3) Marketability.
- (4) Possibility of appreciation.
- (5) Stability.

The investor does not give very serious thought to these subjects. In fact, it often seems that the average successful business man gives more time to selecting his luncheon from the menu card than he gives to selecting investments from the circular of a bond house. If there is one thing that demands adaptability and study, it is investing. However, there are many investors who methodically and carefully consider these matters, and such people may be divided into two main schools, namely:

(1) Those who believe in the distribution of risk.

(2) Those who believe in the concentration of attention.

Briefly, the first class believes in distributing their eggs in a number of different baskets and then forgetting these baskets, while the second class believes in selecting the very best basket, placing their eggs therein, and then persistently watching this basket.

As an illustration of the first class who believe in the distribution of risk, there is a firm in London, England, which has built up a large business along these lines. This corporation has a very interesting theory, that although each nation is continually having periods of depression and prosperity, yet the world as a whole is always growing better, and if a man will properly divide his investments among the important nations of the earth, he "can always sell out his entire holdings at a profit." Although any one who has studied fundamental mercantile and monetary conditions must necessarily believe

in the law of averages, it must be frankly stated that the point has not been reached where we can accept this theory in total. Nevertheless, this English concern is doing good work for devotees of the "distribution of risk" theory, and is sure to build up a great clientele. These people, however, are not content simply with distributing investments among the nations of the earth, but also systematically distribute investments among the different classes of securities, the chief of which we will give as follows:

- (1) Railroad Securities.
- (2) Lighting Securities.
- (3) Traction Securities.
- (4) Telephone Securities.
- (5) Industrial Securities.
- (6) Real Estate and other Securities.

The idea of this distribution is, of course, that certain lines of business are apt to decline, and that it is unsafe for one to invest all his money in any one class of securities. Although a fair amount of distribution is advised, yet when one is confident that certain securities are safer than others, why should he invest in securities which he believes are less safe simply for the purpose of distributing the risk? This is often a great mistake, for if there should be only a very few issues which one knew to be absolutely good, he should confine his investments exclusively to these. On the other hand, many people invest some of their money in securities which they know to be doubtful in order to distribute the risk, and apparently this was the

principle that a well-known American writer acted upon, judging from the following list of his holdings, as published after his death.

Only \$8,000, out of a total appraised value of \$611,136 was found to be invested in bonds—conservatism never distinguished this writer, either in thought or investment. Of the \$541,136 of personality, the principal items were:

American Telephone and Telegraph, common stock,	100 shares
Utah Consolidated Mining Co., common stock,	1,750 shares
United Fruit Company stock.....	165 shares
Brooklyn Union Gas Company stock.....	67 shares
Union Pacific Railway, common.....	100 shares
Fentress Land Company.....	3 shares
J. Langdon Company.....	813 shares
Bonds of Park County, Montana.....	2
Bond of Atlantic Gas Light Company.....	1
Bonds of Duval County, Florida.....	5
Cash in Banks, \$49,490.	

Among the souvenir certificates found in his strong box were 375 shares of the capital stock of the Plasmon Milk Product Company, a concern organized not many years before his death.

The Plasmon Syndicate, Limited (5,000 shares) and the Plasmon Company of America (400 shares) were other certificates for which the appraisers could get no bids. The appraisers also reported this list:

Hope Organ Company.....	50 shares
Koylo Company	345 shares
International Spiral Pin Company.	113 shares
American Mechanical Cash Reg. Company.....	32 bonds
American Mechanical Cash Reg. Company.....	400 shares

Probably he had during his lifetime the typical financial experience of the intelligent, hopeful American. He "went broke" once, but kept up his courage, paid his debts, and died after years of work, a rich man. His average of poor investments during the last years of his life was undoubtedly lower than in the case of the average American.

There are, however, able and intelligent financiers who believe in this principle of distribution, and the following is a plan as outlined by one of the ablest men in Boston, a man whose name is a

household word throughout New England, showing the way in which he invested \$100,000. one day during a recent period of low prices:

\$20,000 in the *transportation* business, dividing the same between the stocks of the Pennsylvania Railroad Company and the Illinois Central Railroad Company.

\$20,000 in the *agricultural* business, buying equal amounts of the Virginia-Carolina Chemical Preferred stock and the International Harvester Company Preferred stock.

\$20,000 in *industrial* enterprises, buying equal amounts of the General Electric Company stock and the American Sugar & Refining Company stock.

\$10,000 in *copper* stocks, dividing this amount among Calumet & Hecla, Amalgamated and Utah Copper Company stocks.

\$10,000 in the *iron and steel* business, but confined this portion of the investment to the purchase of United States Steel Preferred stock.

\$10,000 in the *lighting* business, dividing this amount among the stocks of the Consolidated Gas Company of New York and the Peoples' Gaslight and Coke Company of Chicago and the Edison Illuminating Company of Boston.

This gave him a total of \$90,000, and covered all of the important lines of trade excepting the street railway business, and after considerable difficulty, he decided to buy with this portion \$10,000 of New York Railways Refunding 4% bonds, as he did not find any traction stocks which appealed to him.

Although this list is purely an illustration and may not be any better than a thousand other lists which might be given, it was prepared by a very able man after considerable thought and inquiry. Certainly it is broad and comprehensive, and should appeal to any one who believes in a thorough distribution of risk.

• The More Profitable Way to Invest Money.

The other class of investors believe in "selecting the best basket procurable, placing all of one's eggs in said basket, and then carefully watching the basket." It is, therefore, needless to say that many investors would scoff at the above list. Whether or not they are justified, is debatable; but it may be logical to eliminate the copper stocks altogether and possibly some of the public service corporation stocks. Public service corporation *bonds* should be highly regarded, and some day a large proportion of them will probably become municipal obligations in the cities in which they operate; but the agitation and regulation of public service affairs now existing, *although favorable to the bonds of many such corporations*, is not favorable to the stocks. Therefore, many of the shrewdest investors are selling their stocks of public service corporations where the rates are regulated.

Lighting companies, however, are not so severely harassed as traction companies. This is probably due to the fact that the greatest enemies of traction and other public service companies are their own employees. The men who operate lighting com-

panies know at all times just what service every customer is receiving in the form of light, and know that the light is of the same brilliancy in every home in the city. The officers of a street railway company, however, do not know what their conductors and motormen are doing, *and yet, the public holds the officers responsible.* In other words, the people come into closer personal contact with the street railway companies than they do with lighting companies, a condition much more favorable for the lighting companies.

It will also be noted that the Boston man, for some inexplicable reason, did not care to place any of his money in telephone stocks. He probably had some good reason for this, for some of the ablest New England investors are most heavily interested in the stock of the American Telephone & Telegraph Company. Although the supply of telephone securities seems almost unlimited, and although the government may some day take over these properties, yet now that the rapid growth of the "Independents" is reported to have been checked, the highest grade telephone securities should be attractive investments during periods of low prices.

As a good illustration of the principle of concentrating the risk upon one locality and one class of business and then watching the same, one may refer to the holdings of a well-known former United States Senator. Although this man must be very wealthy, yet he is reported to have his money wholly in the stock of three large corporations, viz.: an important railroad company, a large

industrial company and a great public service corporation. However, he is *a director in all three of these corporations and thus most carefully watches his "basket of eggs."* One need not be an United States Senator to have wealth or "watch the eggs in his basket," for there are many careful New England investors who follow the same method. They have their money invested simply in the stocks of some good railroad company or some good industrial company and a few other local corporations; but these men keep fully informed as to the status of these companies, their earnings, the market value of the stocks, and every item of news published concerning them.

In fact, one investor in a town of Massachusetts, although having but a few shares of stock of one of the public service corporations of Massachusetts, sends to the State House every year for the official earnings of said company, and notes how these earnings compare with those of previous years, of which he has kept record. This man, although never having seen the property, is better informed as to its condition and growth than some of the directors of the corporation. He is a man who does not believe in shutting his eyes and mechanically distributing his money among a large number of different classes of stocks on the "distribution of risk" theory, but rather believes in the selection of the stocks of a few corporations, and then keeps most careful watch of their progress. He buys more or he sells as he thinks the values are improving or declining. By studying the sales as they

appear each night in his evening paper, he seems, by an almost supernatural intuition, to always know the sentiment on the Boston Stock Exchange, although he has not been to Boston for many years.

Diversification.

It doubtless is wise to distribute one's money among a fair number of investments; but certainly it is not wise to buy anything which is not universally considered absolutely good, even for the purpose of distributing the risk. It is much better, if possible with absolute safety, to buy a certain number of securities at one time, and then base one's buying and selling simply on the average price of this list, irrespective of the individual price of any one of the securities.

More railroad stocks and less miscellaneous stocks than given in the above list should be purchased. With the above mentioned \$100,000 to invest, instead of placing only \$20,000 in railroad stocks and \$80,000 in the stocks of miscellaneous corporations, half if not three-fourths might well have been invested in railroad stocks. Of course, many may object to this especially at a time when railroads are being harassed by the government, and their securities are in ill repute. This, however, is not a logical reason for not purchasing such stocks *unless as many think, railroad securities will be in still worse repute some time later.* It may be frankly stated that *the best time to purchase good railroad or any other good stocks is when such stocks are in disrepute, and there are more sellers than*

buyers. Therefore, although it is not always the time to buy stocks, yet the permanent investor should never refrain from purchasing because they are temporarily in ill repute *if they are, at the same time, intrinsically good.*

In the book entitled "Business Barometers," there is given a list of the following ten stocks:

	Div. 1907	Low Price 1907
Central New Jersey.....	\$8	114
Chicago, Milwaukee & St. Paul	7	93
Delaware & Hudson.....	9	124
Great Northern plus 1 Ore. Cert.	7	144
Illinois Central.....	7	116
Louisville & Nashville....	6	85
New York Central.....	6	89
N. Y., N. H. & Hartford..	8	127
Pennsylvania	7	103
Pullman	8	135

This list is selected, not primarily because it is believed to be a good list, but because it is a list, the records of which are available for a great number of years. This list also represents those companies which have long dividend records. For instance, the Pennsylvania Railroad Company has paid a dividend every year since 1856, when it paid 8%.

All of these companies are reported to have paid a dividend of some kind without exception during panics, periods of depression and periods of drastic rate regulation. It is perfectly proper to divide funds among the securities of these companies and others with similar records; but going outside of

the high grade seasoned securities simply for the purpose of distributing the risk, is a practice which is unnecessary.

It should therefore be clearly understood *that it is not so important whether you invest in the securities of a railroad company or an industrial company or a public service corporation, as it is to invest in the securities of some company which has a long record of honest management, steady growth and the payment of continuous dividends.* Therefore, when deciding in what class of corporations to invest, endeavor to select "well-seasoned" securities that have paid dividends on their stock through panics, depressions and all periods of anti-corporation legislation.

CHAPTER VI.

WHAT KIND OF BONDS TO BUY

IT is well to explain at this point the difference between the various classes of bonds which are being offered, for the difference is very great. Before describing these various classes, however, it is important that the exact difference between stockholders and bondholders be understood.

A quotation from the Babson Instruction Courses on Investments which teach the underlying principles of investments is here given. "Suppose a merchant owning property borrows \$1,000. He gives his note promising to pay on a certain date, at a certain rate of interest, and gives a mortgage on his property as security for the loan and interest. Now the *merchant*, who owns the property and borrows the money, corresponds to the *stockholders* of a corporation. The note secured by the mortgage, corresponds to the bonds which said corporation issues. The party *who loans* the money corresponds to the *bondholders*, or the investors who buy the bonds.

"Suppose a corporation owning a large property wants to borrow \$500,000. The corporation makes a mortgage on all its property to a trust company, to be held in trust as security for all the persons who are to loan the money. The corporation then issues 500 bonds of \$1,000 each, to a total of \$500,000, each bond promising to pay to the owner

of the bond \$1,000 on a certain date, at a certain rate of interest, and stating that a mortgage has been made to a certain trust company as security for all the bonds and interest thereon. The bonds are then sold to investors. The stockholders, who own the property, and who authorize the \$500,000 to be borrowed, correspond to the merchant. The bonds, secured by the mortgage, correspond to the note. The bondholders, that is, the investors who purchase the bonds and who in doing so loan the money to the corporation, correspond to the party who loaned the money to the merchant.

“A *bond* is a certificate of a corporation promising to pay the amount of the bond with interest, and in the case of a mortgage bond, states that the payment is secured by a mortgage. A share of *stock* is a certificate of the actual ownership of a certain portion of the property of a corporation. However, as most large corporations borrow money by issuing bonds and by mortgaging their property to secure the bondholders, a share of stock is only an interest in the property, *subject to the mortgage of the bondholders*, and an interest in the profits of the company, *after the interest on the bonds has been paid to the bondholders*. A bond is a certificate held by a person who has loaned money to a corporation. A stock is a certificate held by a person who actually owns a portion of the business of the corporation. The bondholders loan the money. The stockholders, not as individuals, but on behalf of the corporation, promise to pay the money back, and mortgage the property of the cor-

poration to secure the payment. When one buys a bond, the bond promises to pay back the face amount of the bond, and promises to pay interest in the meantime. A certificate of stock does not promise to pay any money at any time under any conditions. A bond is a certificate of indebtedness, whereas a stock is a certificate of actual ownership, or of interest.

“We speak of ‘buying’ a bond, but really when one buys a bond he does not ‘buy’ anything any more than one does when he deposits money in a bank. When depositing money in a bank, one ‘deposits’ it there, and the bank makes an entry in a bank book showing the money has been received on deposit. When one invests in a bond, he ‘loans’ the money to the company issuing the bond, and the bond which he obtains from the company promises to pay the money back with interest, and the promise, both as to the amount of the bond and the interest, is secured by a mortgage on the property of the corporation. When one buys a share of stock, he actually does ‘buy’ something. He buys an interest in the business of the corporation. When one buys a bond, he makes an investment in the strict sense of the word. When he buys a stock, he goes into business.

“Many people think that stock is a certificate connected with a business in some way which entitles them to certain profits and they seem to have an idea that all they must do is to buy the stock and they are sure to get the profits and also to get a good value for the stock itself. Such is not the

case by any means. When one buys a share of stock, he buys an actual interest in the business, and he takes all the chances of success or failure. A bond rests upon the actual value of the property mortgaged to secure the bond, while stock depends for its value upon the success of the business. If a business is successful, dividends are paid on the stock, but if the business is not successful, there are no dividends, and the stock becomes worth little, or nothing. As to the bonds, if the business fails, the trustee will foreclose the mortgage and sell the property of the stockholders to pay the bondholders both the amount of their bonds and any interest which may be due."

It will be seen, therefore, that given the same corporation, the bonds are safer than the stock. On the other hand, the stock of some corporations may be far safer for investment than the bonds of other corporations. Moreover, not only is there a great difference in corporations, but also in bond issues, and we will here discuss the different classes of bonds.

Three Classes of Mortgage Bonds.

"We will assume that a number of persons form a company known as the Great Eastern Railroad Company and issue stock, from the proceeds of which they receive money enough to buy the right-of-way for a railroad and grade the same. We will further assume that they wish to purchase rails and finish construction. Either they have sold all the stock which they can sell, or else they wish to avoid

issuing more stock with the possibility of losing control. But—whichever the reason—they decide to issue bonds instead, and therefore the company mortgages these rights-of-way and the property so far as completed, to a trust company as trustee, and issues bonds secured by said mortgage. As this mortgage is the first which the company issues, these bonds are known as "*First Mortgage Bonds*" and are secured by a first lien upon everything completed at the time of their issue.

"We might now assume that this first mortgage has not been made large enough, and it is found that more money is needed to complete the property than was first anticipated. Therefore, it becomes necessary to place a second mortgage upon the property and issue other bonds. In such a case, these additional bonds are known as "*Second Mortgage Bonds*." However, instead of this latter assumption, let us suppose that the company received enough from the sale of the first mortgage bonds to complete the property, and that the road is in successful operation with only first mortgage bonds outstanding.

"Again, we will assume that at the end of five years the directors find an extension should be built to a city two hundred miles from the present terminus of the line. To pay for this extension, the company issues "*First Consolidated Mortgage Bonds*," said bonds being secured by a *first* mortgage upon the extension of two hundred miles, and a *second* mortgage upon the original property, upon

which the first bonds mentioned above are a first mortgage.

“We will again assume that this extension creates so much additional traffic that it becomes necessary to double-track the entire road, and to do this the company must issue more bonds. These are secured by a mortgage upon the entire property including extensions, *subject to existing mortgages*. This new issue is thus secured by a *second* mortgage upon the extension, and if the previous issue was a “consolidated” issue, by a *third* mortgage on the original property. Bonds secured by such a mortgage are known as “*General Mortgage Bonds*.” Of course, given the same company with the various bonds above described, the first mortgage bonds are the best, the consolidated mortgage bonds next, and the general mortgage bonds are usually the poorest. This rule, however, cannot be applied when considering different companies, as general mortgage bonds of the Pennsylvania Railroad Company or of the Reading Railroad Company should be absolutely good; while the first mortgage bonds of some other corporations are practically valueless.”

A most forcible illustration of this fact is shown in the purchase of \$5,000 First Mortgage Gold 5% Bonds secured by a first mortgage on a well built track and overhead wiring. Not only were these bonds a first mortgage, but they were purchased by a civil engineer who is supposed to be thoroughly posted on such matters. However, this civil engineer bought these bonds at about par from a

reliable bond house which had previously purchased them in good faith. As nearly as can be ascertained these bonds are now quoted at about 5, which means that for about \$5,000 of this man's savings, he now has only about \$250 *and moreover, this loss was caused by the purchase of a first mortgage bond.* Of course, this illustration is an exception to the rule, as probably not more than seven per cent of the first mortgage bonds issued ever default; but since some do default, the small investor should remember that it is not sufficient to insist simply on a "first mortgage," as other requirements are also necessary.

Prior Lien Bonds.

"At this point we will assume that this Great Eastern Railroad Company has a serious setback and becomes temporarily embarrassed, so that it must raise more money or go into bankruptcy. It may be found that the full authorized amount of "Consolidated Mortgage Bonds" has already been issued, and it may be impossible to find a market under existing conditions for more General Mortgage Bonds. As the property is intrinsically good, the bondholders unite and agree to permit the issue of bonds which shall take precedence as to security over all of the outstanding issues, including the first mortgage bonds. Such bonds are known as "*Prior Lien Bonds.*" It should be distinctly understood however, that these prior lien bonds cannot be issued without the consent of all persons holding any of the other bond issues. These prior lien

bonds, however, are created to run for only a few years, or until the company again becomes prosperous, when they will be paid off and the prior lien mortgage discharged. The company in this case then resumes its former position, with only first mortgage bonds, consolidated mortgage bonds and general mortgage bonds outstanding.

“These are the principle issues which smaller companies have outstanding. Of these issues, the *first mortgage bonds* and the *prior lien bonds* are the safest and most attractive. The consolidated mortgage bonds may be attractive in this special instance, as they are followed by a large general mortgage issue; but usually they are not considered conservative investments, especially when secured by new or unsettled properties. Moreover, general mortgage bonds are usually not considered conservative investments unless the surplus earnings, after paying all taxes, rentals and interest on all issues, are at least equal to said charges.”

The following therefore is a very good rule to follow:—

“Bonds which are followed by large equities, consisting of valuable junior bond issues or preferred stock issues, representing large amounts of actual cash paid by other investors, are usually very good investments. In other words, it is wise always to keep in a “protected position” *where other investors will have so much money at stake that they will be obliged to save the property for their own protection*, and will in so doing protect the interests of the holders of all underlying bonds. In such a

case, before the holders of the underlying issues can lose a dollar, a large number of other investors must lose their all. Such bonds are known as "Underlying Liens," and are the class which are universally the safest. If a first mortgage issue is not followed by large equities either in the form of junior issues or full paid stock, it is not, even if correctly named, necessarily safe because it is a first mortgage issue. *Therefore—the investor who desires only safety, should seek for underlying liens on old and successful properties. This is a very important rule to remember,* but on the other hand such issues may very readily be obtained from any of the high grade bond houses. It is simply necessary to ask for "an underlying lien" of the large railroad systems, and whether the issue recommended is a first mortgage, a second mortgage or a consolidated mortgage, it should be safe.

Convertible Bonds and Extended Bonds.

"There are, however, other classes of bonds, and to continue the illustration, we will now assume that it is a time of panic, that money rates are very high, and that simultaneously with these high money rates, additional funds are urgently needed. For good logical reasons from a banker's point of view, they (the bankers) will not purchase short term notes. In order to raise this additional money therefore, the company is obliged to issue "*Convertible Bonds.*" Such bonds give the purchasers the privilege of exchanging, within a certain number of years, their bonds for a certain number of

shares of stock in the company, if the holder so desires. The new bonds are issued to pay 5%, and at the same time, the stock is likewise paying 5%. There is, however, a prospect of the stock paying 6% or possibly 8%, and this makes the convertible feature quite attractive. In other words, the purchasers of these new bonds have a better security than stock, and *in addition*, have the privilege of converting their bonds into stock at any time that the stock should become especially valuable. This convertible bond issue is not, however, secured by mortgage.

“A short time later another issue becomes due, and as money rates are still high and the company does not wish to sell another convertible issue, it is necessary to pay this latter maturing issue in some other way. Therefore, the company extends the old bonds for a period of years by paying the current rate of interest. These latter bonds are known as “*Extended Bonds.*”

Equipment Bonds, Terminal Bonds and Land Grant Bonds.

“We will now assume that it becomes necessary for this Great Eastern Railroad Company to buy more equipment, and a new bond issue is created secured by this new equipment. These bonds are known as “*Equipment Bonds.*” Again, the company desires to build a passenger station in Chicago, and purchases a tract of land and builds a station thereon. The money is obtained by creating an issue of bonds secured solely upon the pas-

senger station and the land upon which it stands. These latter bonds are known as "*Terminal Bonds.*" Later, the company comes into possession of large tracts of land, and in order to build branches there-to for developing the property, issues some "*Land Grant Bonds.*" These bonds are secured both on the branch railroad and the lands adjoining, and the bonds are reduced as the land is sold. All three of these classes of bonds have usually been safe and attractive."

Refunding Bonds and Other Classes.

"The company has now so many bond issues outstanding that it becomes desirable to consolidate all of the issues into one issue. The directors therefore execute one large mortgage called a refunding mortgage upon the entire property which is sufficient to provide bonds that may be sold whenever any of the other underlying bonds become due. As more underlying bonds become due, the security for these Refunding Bonds increases, for they are becoming secured by a first mortgage on more property. Eventually all of the underlying mortgages will mature, and the refunding mortgage will be a first mortgage upon all of the property. This period, however, will not be reached until all of the issues above mentioned are either paid or exchanged for the Refunding Bonds. There are other classes of bonds, such as Income Bonds, Participating Bonds, etc.; but space will not permit a description of these here."

Some companies are not honest in naming their

issues and sometimes call an issue by a more attractive name in order to make it more salable. This means that one cannot depend entirely upon the title. This being the case, the investor cannot safely buy bonds simply because they are called "*first mortgage bonds*." Not only are bonds such as the Toledo, St. Louis & Western Railroad 4's due 1950 called "First Mortgage" bonds when in reality they are purely "Second Mortgage" bonds, but the names of roads are also misleading. A very simple illustration of this is the case of the "European & North American Railway" which, although its name signifies a transcontinental line, is a road only 114 miles long located between Bangor and Vanceboro, Maine. As the road is now leased by the Maine Central Railroad Company, its securities should be absolutely good; but it nevertheless serves as a very good illustration of the fact that the investor cannot depend upon the name alone.

Therefore, even if a bond issue is said to be secured by a first mortgage on a property with a high sounding name, investors should investigate further, and reliable bond salesmen will gladly give all the information desired. In this way the investor may learn whether or not both the corporation and the bond are correctly named, especially if the explanation is accompanied by a copy of the mortgage and a map showing the location. Therefore, when investing in bonds, unless one is especially trained or willing to leave the matter entirely with his banks and the bond house which his bank

recommends, he should first decide in which of the above mentioned classes of bonds he wishes to invest, and then ascertain whether or not the bonds which he is considering are correctly named, and of what the security consists.

Of the various classes of bonds above mentioned, the most interesting are "Convertible Bonds" and "Equipment Bonds." There are now outstanding only a few issues of land grant bonds and terminal bonds, although both of these classes stand very high. Moreover, land grant bonds are constantly being paid instead of being refunded and are therefore becoming more and more scarce, so that eventually the large systems will have none outstanding.

The reverse, however, is true of equipment bonds. A road may double track its property and reach a limit on such improvements, as the elimination of grades, curves, etc., but it can never reach a limit on the amount of equipment needed. So long as the country grows, the railroads will continually need more and more equipment, and more equipment bonds will be issued. Many roads also are so heavily mortgaged already that a new mortgage does not now appeal to the investor even although the new mortgage be given for the purpose of acquiring equipment. Therefore, instead of placing another general mortgage on their properties, many companies issue equipment bonds secured by first mortgage on the equipment purchased. It is probable that the greatest need of the railroads during the coming years will be for equipment, and the purchase of this equipment will be financed by issuing equipment bonds.

Debenture Bonds and Collateral Trust Bonds.

We will now continue the above illustration by assuming that this same Great Eastern Railroad Company with bonds outstanding becomes very prosperous and commands a very high credit, while the directors desire to borrow money for a through system of block signals or something of a similar nature. They think, however, it is entirely unnecessary to place another mortgage upon the property, and therefore issue notes of the company, that is, plain "promises to pay" without security of any kind. These notes are known as "*Debenture Bonds*." These are the character of bonds which the Boston & Maine Railroad Company and the New York, New Haven & Hartford Railroad Company issue and which, in the case of such roads, should be good; but in many other cases—where preceded by mortgage bonds—are undesirable.

We will now assume that the company desires to purchase the stock of another railroad which is operating in adjoining territory. To do this, the company buys said stock and immediately deposits the same with a trust company and issues notes "payable to bearer" in coupon form, secured by said stock. Excepting for the stock deposited, these notes have no more security than the debenture bonds mentioned in the preceding paragraph; but owing to the collateral, these latter bonds, which are issued to buy the stock of the company operating in adjoining territory, are known as "*Collateral Trust Bonds*."

After buying the stock as above, let us assume

that the directors become desirous of purchasing the stock in another, but larger company operating in adjoining territory. Upon commencing to buy the stock in this second company, they find that the directors of another road are likewise endeavoring to buy the same stock, and in order to prevent forcing up the price to a prohibitive figure, the two companies unite, and each buys one-half of the stock (or rather buys the stock in common), and deposit said stock jointly with a trust company and issue joint notes secured by said stock. In reality these notes are simply Collateral Trust Bonds; but they are signed by both companies instead of one company. Owing to this latter fact, they are known as "*Joint Bonds.*"

Guaranteed Bonds or Assumed Bonds.

Of course, both of these sub-companies, the stock of which was bought by the original company, have dependent bond issues outstanding. We will assume that one of them wishes to sell another issue for double-tracking. In order to help the sale of this new issue, the parent company guarantees it. Such bonds are known as "*Guaranteed Bonds.*" Moreover, when the stock of a company is purchased, it is often agreed that if the sub-company should sell additional bonds, the bonds already outstanding will be assumed by the parent company. This is insisted upon by the stockholders of the smaller company before they agree to the sale of the property, as it often happens that the stockholders also hold the majority of the bonds of the

smaller road. In such a case these old bonds are henceforth known as "*Assumed Bonds.*"

Of these various issues it will be seen that the last two are in reality but new names for bonds previously mentioned and are of the same general character, excepting that they are guaranteed by another company to aid in their sale. Bonds which should be safe without any guaranty, should when guaranteed be especially attractive, particularly if the guaranteeing company is prosperous and of long standing; but *if not safe without a guaranty*, they should not be recommended as investments. For these reasons, inexperienced investors should be loath to purchase any of these three classes excepting when issued by large and prosperous corporations, the stocks of which are listed and actively sell at a premium. All debenture and collateral trust bonds should be most carefully studied before one invests therein. Regarding the other three issues; namely, debenture bonds, collateral trust bonds and joint bonds, *given the same company with all three issues outstanding and with collateral of equal value*, the "Joint Bonds" should be the safest and the "Collateral Trust Bonds" should rank next, as each of these issues have all the strength of the "Debentures" with the collateral in addition. On the other hand, a plain debenture bond of one company may be a very much safer investment than the collateral trust bond of another company.

Moreover, some of the largest losses incurred by bond buyers have come from purchasing collateral

trust bonds secured by stock of companies where the first mortgage bondholders have foreclosed and taken the property, this resulting in a total loss to the holders of the collateral trust bonds. Where the collateral consists of stock, collateral trust bonds are wholly junior to even the "Debenture Bonds" and to the floating debt of the controlled companies. This was illustrated in the case of the old Consolidated Steamship Company bonds, which were actively traded in at Boston a few years ago. These bonds were secured by stock of four important steamship lines operating on the Atlantic Coast, and were dependent for their interest charges on the dividends received from the stock deposited as security. As the four subsidiary lines were not obliged to pay dividends on their stock, this put the owners of these 4% collateral trust bonds in a very awkward position.

Moreover, when these bondholders pressed their claims and attempted foreclosure, they found that they could simply foreclose and take the stock but could not take the actual property, as the holders of the floating debt of these subsidiary companies came ahead of these collateral trust bondholders, and thus could dictate the policy. This resulted in a reorganization wherein the holder of \$5,000 Collateral Trust 4% bonds received only one \$1,000 5% bond in exchange, which 5% bond is the one now quoted on the Boston Stock Exchange.

Two Sides of All Issues.

Those who are considering purchasing any of the

classes of bonds herein mentioned, should consider the following: Convertible bonds of established companies are usually very attractive when they are selling at a reasonable price and usually offer the greatest opportunity for profit; but also for loss. This is best illustrated in the case of convertible bonds of certain well-known mining companies for which many stockholders paid around par and interest. These bonds are now selling at only a small fraction of the original cost. Nevertheless, convertible bonds of well established railroad companies are often very attractive; such special issues are usually secure and offer a good opportunity for profit. A writer once referred to a convertible bond issue as a "Balloon with a life preserver attached." Of course it is the balloon feature, namely, the privilege of sharing with the stockholders any large increase in the value of the stock, that makes convertible bonds attractive, although as a rule, stocks of companies having large convertible bond issues outstanding do not enjoy large increases in market price. However, nearly all convertible bonds of established companies show larger increases in price than almost any other class of bonds above mentioned. This increase is especially large after or during a period of depression when stocks have been selling very low.

On the other hand, at the time of a drop in stocks, during or following a period of prosperity, a decline in convertible bonds is usually greater than that of almost any other class of bonds. Moreover, convertible bonds are usually only junior liens, and

in many instances, mere debenture bonds of the issuing companies. Therefore, it is a general opinion among conservative bankers that, excepting the very best issues, such bonds should not be purchased by the investor who does not study fundamental business conditions. Persons who prefer to purchase stocks are recommended to seriously consider convertible bonds; but they are not to be recommended to persons who now confine their purchases to the high grade bonds.

Equipment bonds are attractive on account of the high yield. They are also usually well secured; but the best equipment bonds run for only a short period, and this is one distinct objection. In a period when bonds are high, a wise investor purchases only short term notes of about two years duration, and in a period when bonds are cheap, he purchases long term bonds. Therefore, most investors have little use for bonds running about ten or fifteen years, the usual duration of equipment bonds, as they do not answer the purpose of either short or long term bonds and usually mature at the very worst possible time from an investor's point of view. Moreover, the purchaser of equipment obligations should carefully consider the value of the equipment securing the issue, and always insist upon receiving a copy of the legal opinion which the firm offering the securities should have on file. The contract providing for the use of the equipment is public property, and is usually printed as a part of the indenture. With equipment bonds properly secured, each car or locomotive is plainly marked so

as to identify the mortgaged property, and the par value of the issue should not exceed 60% of the total cost of the equipment, although some of the larger roads issue equipment bonds up to 90% of the cost. There should also be proper provision compelling the company to maintain the efficiency of the equipment. In short, equipment bonds are similar to notes secured by a chattel mortgage on any other property. If the property has a good market value and can be sold and transferred and the legal work has been properly done, the notes are well secured and often the security is much preferable to real estate security; but unless these features are complied with, a chattel mortgage is unattractive.

CHAPTER VII.

LISTED AND UNLISTED SECURITIES.

THE dealers of investment securities in London are divided into two classes, namely; the bankers or brokers who handle listed securities on commission, and dealers or merchants who handle the unlisted bonds. If occasion should arise to look up these investment houses in the telephone or business directory, it would be found that the banks dealing in the unlisted securities would appear as merchants in the same class as the wool merchants, dry goods merchants, tea merchants, etc. The banks dealing in the listed securities would be classified as banks or dealers in investment securities.

Now this illustrates extremely well the difference between the dealers in listed and the dealers in unlisted securities, although in this country there is very little distinction, as most reputable dealers handle both listed and unlisted. In London, however, the distinction is more closely drawn. For instance the bond merchant is allowed to advertise his wares, the same as the dry goods merchant and the tea merchant; but the broker is forbidden to advertise in any such way. Not only do the rules of the London Stock Exchange absolutely forbid any newspaper advertising of any kind, but the London brokers do not send circulars to any but their regular clients.

How Bonds Are Listed.

Bonds of large issues—especially on large railroad companies—which have been outstanding for a sufficient time to acquire a wide market and in which there is trading almost every day, have gradually come to be “listed.” That is, the company issuing the bonds fills out an elaborate blank, which includes a description of its various classes of bonds with the amounts outstanding, together with an application to the New York Stock Exchange to have the bonds listed. “Listed” means that they can be traded in by the members on the floor of the Exchange, and that quotations of the sales will be published by the Exchange, both in its official sheets and on the tape. Of course, the company is obliged to agree to certain conditions and also to pay a certain sum of money; but it gives a certain wide market and publicity to these issues, which is well worth the trouble and expense.

Of course, when it comes to actual figures, there are many unlisted issues, such as the City of Boston bonds, for instance, wherein the trading and the market fully equal that of many of the listed issues. In fact, there are many listed issues which are not traded in oftener than once a month. Nevertheless, there are certain individuals and institutions who will not buy bonds unless they are listed, and therefore to obtain their market certain large corporations arrange to have their issues listed as above outlined.

This especially applies to foreign purchasers,

and is well illustrated by the following: A representative of an American bond house in Amsterdam was in great haste to reach the cable office. He would not be delayed, saying that he had sold some bonds "on condition that they were being listed on the New York Stock Exchange, as these Dutch investors insist upon this." In short, he was cabling his New York office to hurry an application. Said he, "Whether or not they are ever traded in on the New York Stock Exchange, I do not care; but we must have them listed there in order to sell them here." This simply shows that some people lay great stress on listing a bond; however, listing in itself is not sufficient to provide a market. The main point to notice is whether or not the bond is *actively traded in* with a wide market, and with published quotations every day over a long period of time.

Quotations and Rates of Commission on Listed Bonds.

In the daily papers will be found a list of bonds which are listed on the New York Stock Exchange, and actively dealt in each day with the high and low prices of the day. Some daily papers, usually in the larger cities, have the complete bond sales for the day; that is, instead of quoting

	low	high
Rock Island 4's	70	71

they will give the total sales of Rock Island 4's during the day, viz.:

Rock Island 4's		2002
10,000	@	70 $\frac{1}{4}$
5,000	@	70 $\frac{1}{2}$
10,000	@	70
2,000	@	70 $\frac{1}{2}$

For a complete list of the bonds listed on the New York Stock Exchange with the last sales, one should refer to the official sheets of the New York Stock Exchange which may be seen in any broker's office. It should be remembered, however, that there are two official lists published, one giving the sales for the day, and the other giving a complete list of the several hundred listed issues with the last sale, which may have been a month or even six months ago.

On *inactive* listed bonds, some brokerage firms charge whatever commission they can get, or to use a railroad phrase, "whatever the traffic will bear," one-fourth of one per cent, one-half of one per cent, or possibly one per cent or more. Firms which are not members of the New York Stock Exchange may charge whatever they wish on any bond issues, whether listed or otherwise. Firms which are members of the New York Stock Exchange, however, should charge only one-eighth of one per cent on issues which are listed, while they may charge any rate which they desire on issues which are unlisted. One-eighth of one per cent is \$1.25 on a thousand dollar bond.

Some persons look upon this as an advantage possessed by listed bonds. It is true that a firm will charge a commission of one-eighth of one per cent on a listed bond, and may demand a larger commission on an unlisted bond, but said firm will give much less thought and attention in aiding a customer who desires a listed bond. The extra attention received from bond firms which are not stock exchange members is well worth the extra commission which one is sometimes obliged to pay such firms. In fact, one of the very best things which the New York Stock Exchange could do to establish a more general interest in securities, would be to have a minimum commission of five dollars on a thousand dollar bond or ten shares of stock. Under present conditions a stock brokerage house cannot live without the speculative business, and it actually entails a loss for them to develop a small investment business. If, however, stock exchange firms could have the aid of the New York Stock Exchange in developing such business, the policy would not only increase their clientele, but would cause a larger and broader interest in standard securities. This would eventually result greatly to the benefit of the dealers, the investors and the corporations of our country. Therefore, the chief advantage of listed bonds is not that they may be bought or sold for a small fixed commission, but they are preferable because they may be bought or sold at any time or—in other words—because there is always *some* market at *some* published quotation.

Why All Bonds are not Listed.

Surprising as it may seem, only about five per cent of the bond issues outstanding today are listed bonds. In view of the above mentioned demand for listed bonds, the question naturally arises why all issues are not listed, and why all investors do not insist on buying listed bonds. The reason lies in the fact that the bond business is like any other business; when dealing with reputable firms, the purchaser receives what he pays for, no more and no less. If a firm gains only a small profit for performing a certain service, it naturally cannot give much time to the work; but if the work can be made to yield larger returns, it will secure much more careful attention, not only because more is due to the customer, but also in order to retain this profitable clientele. One should use the same care in selecting a bond dealer as in selecting a physician; and for this reason, there is no doubt but that most investors get much better attention from the *established* dealers in unlisted bonds than from the *average* Stock Exchange firm which buys and sells only the listed issues.

To illustrate this point.—When an investor decides to buy a listed bond, he usually must select the issue in which he intends to invest, and then give the order to a stock exchange firm for its brokers to execute in a mechanical way. If the investor has selected a good bond, the result is satisfactory; but if the investor has not selected a good bond and has made a loss, it is final and he has no

complaint either legally or morally. The firm is simply required to execute the order, and if the purchase is a total loss, the brokers are not in any way to blame.

If, on the other hand, the investor goes to an established firm and asks them to recommend a bond for permanent investment, this firm is willing to assume a certain amount of moral liability. Owing to this fact, therefore, such established firms usually give most careful attention to the selection of an issue for such an investor. For instance, before any of the large and established houses will become identified with an issue, it spends large sums of money for the services of engineers and attorneys, who make most careful examination of all details connected with the issue. These firms not only spend the money in the investigation of the issues which have been purchased, but spend very large sums in studying many other issues which are never purchased. In fact, one of the partners of a large firm stated recently that his firm purchased bonds of less than five per cent of the properties which they examined, and that last year they spent nearly a quarter of a million dollars on engineering, legal work and other expenses connected with studying new issues. It will be seen, therefore, that such an organization is a great safeguard to the permanent investor desiring only the highest rate of interest procurable with safety, and who does not care for a market in order to liquidate.

Not only is it a great advantage to have the aid

of these firms in selecting an issue for purchase, but if anything goes wrong, these firms which originally offered the issue, will take charge of the reorganization and fight for the interests of their clients, the bond holders, to whom they sold the bonds. On the other hand, when buying a listed bond, the investor often has no one to represent him impartially. Although a "bond holders' committee" is always formed when the bonds are listed with no one house which feels responsible, the investor is not sure whether the committee is formed in the interest of the bondholders, the floating debt holders, or the stockholders. In the case of high grade unlisted bonds, however, it is reasonably safe to assume that the firm which stood responsible for the issue is interested only in making that issue good, or in obtaining principal and interest for each bond holder.

Dealers' Commissions on Unlisted Issues.

It is impossible for these dealers in unlisted bonds to perform this work for the fractional commission, such as stock exchange firms receive for selling listed bonds, and experience has shown that such dealers are entitled to a profit of from five to ten per cent. In reality, therefore, this is a merchant's profit and not a commission. These dealers in unlisted securities go into the market and buy entire bond issues at wholesale, the same as the dry goods merchants buy cloth and the tea merchants buy tea, and then sell the bonds at retail. For instance, a large bond house would buy a million

dollar issue for about nine hundred and fifty thousand dollars or possibly less, and then sell these bonds on some such basis as follows:

Persons buying one bond are charged par and interest; and persons buying lots of twenty-five thousand can obtain them usually at a little discount. This is entirely just, for the firm can not afford to sell one bond for less than par; on the other hand, if the reader or any other wished to purchase the entire issue, he could purchase it at a very low figure. It is owing to this fact that these dealers in unlisted issues are considered in London purely as "merchants," while those dealing in listed issues are known as "brokers," and it seems that it would be very well to have the same distinction in this country.

Usually the higher grade the bond issue, the easier it is to sell, and consequently the smaller is the profit to the bond dealer, and in many such cases, the gross profit does not exceed more than two or three per cent. On the other hand, the lower grade the issue, the harder it is to sell and the greater the commission; in fact, some of the six per cent industrial and irrigation issues now on the market are said to give a gross profit of nearly twenty per cent to the dealers. Of course, there are two disadvantages connected with such issues, apart from the risk, viz.: *First* is the fact that there is less security for the bonds, less money having been paid in to the company's treasury from their sales, and consequently, one must take a much greater shrinkage if he desires to sell. *Second*, the

fact that the greater the profit to the dealer, usually the greater shrinkage an investor must take if he desires to sell.

The Leading Objection to Unlisted Bonds.

When desiring to buy a listed bond, an investor is obliged to pay only a commission of one-eighth of one per cent, and likewise when selling said bond, the commission is limited to this amount; but with unlisted issues this is different. Directly after purchasing an unlisted issue, it is often necessary to take a loss in case one desires to sell, and this loss is proportionate to the profit received by the dealer. *Therefore, a very good rule to follow is to confine one's purchases of unlisted bonds to such as are wanted for a permanent investment, and not buy unlisted bonds with the idea of selling them again at a profit.*

Relative Advantages and Disadvantages.

It will be seen from the above that both classes of bonds have their advantages and disadvantages. Actively traded-in, listed bonds are easy to buy and easy to sell; but one must usually take his own responsibility when making a purchase. Unlisted bonds, although they are easy enough to buy, are often difficult to sell; but when dealing with a good reputable house, the purchaser may feel that the firm's organization is not only selecting the issue with great care, but will also watch and protect it.

Whether the weighing of these advantages and disadvantages results in favor of listed or unlisted

issues, as a whole, it is difficult to say. Many of the keenest investors prefer listed bonds—but many equally informed prefer unlisted. These advantages and disadvantages are apparently about evenly balanced, the advantage depending upon the individual need and purpose of the purchaser. The following is a good rule for the permanent investor, viz.:—

WHEN BONDS ARE LOW IN PRICE AND THE DEMAND FOR MONEY GREATLY EXCEEDS THE DEMAND FOR SECURITIES, PURCHASE LISTED CORPORATION BONDS, AS IN THE TIMES OF PANIC, THE LISTED BONDS ARE THOSE SELECTED TO BE THROWN ON THE MARKET AND CONSEQUENTLY SHOW THE GREATEST DEPRECIATION IN PRICE. WHEN SELECTING A LISTED BOND, HOWEVER, ONE SHOULD CONFINE HIS PURCHASE TO ONLY THE HIGHEST GRADE, AND REFUSE TO PURCHASE ANYTHING EXCEPTING THOSE QUOTED IN THE NEWSPAPERS EVERY DAY.

ON THE OTHER HAND, WHEN THE DEMAND FOR BONDS EXCEEDS THE DEMAND FOR MONEY, THE PURCHASE OF HIGH-GRADE, UNLISTED BONDS IS TO BE RECOMMENDED, AS WHEN TOO MANY PEOPLE WISH TO PURCHASE BONDS, THE PRICES OF LISTED BONDS ARE FORCED ABNORMALLY HIGH. MOREOVER, WHEN PURCHASING SUCH UNLISTED ISSUES, INVESTORS SHOULD NOT EXPECT THE OPPORTUNITY TO RE-SELL THEM AT A PROFIT, AS THEY ARE FOR THE PERMANENT INVESTOR AND NOT FOR THE MAN WHO DESIRES TO MAKE A PROFIT ON THE LONG SWINGS CAUSED BY THE VARYING DEMAND FOR MONEY AND OTHER SUCH FACTORS.

Fundamental Difference Between Stocks and Bonds.

When purchasing a bond, you purchase an *obligation* of a company which matures at some definite date when *the company must pay the principal and interest in full or you will have the privilege of foreclosing and taking the company's property.* Owing to this fact, all good bonds when approaching maturity usually sell approximately at their par value. They do not sell much above their par value as an investor who holds a bond until maturity loses this premium. They do not sell much below par as an investor will not sell a good bond at much less than par, because he is sure of obtaining the full par value when the bond matures. Of course, the longer the time a bond has to run before maturity, the greater usually is the premium or discount; and conversely, the shorter the time a bond has to run, the smaller is the premium or discount.

With stocks, however, there is a fundamental difference. When purchasing the stock of a railroad or industrial company, *there is, with few exceptions, only one way in which the money can be obtained, and that is by selling the stock to somebody else.* Of course, it can possibly be sold to a broker, or by the broker, but the principle is just the same because the broker must find someone else to whom he can sell it. In other words, when a bond is purchased, it is an *obligation* of the company and at a certain date, the company must pay the face value and interest, or go into

bankruptcy. When, however, the stock of a company is purchased, it represents only an *equity* in the company, and if nobody else wants it, it is absolutely impossible to obtain any money back, as the company is under no obligations to ever pay for the same. For this reason one should not only give much more thought and attention when buying stocks than when buying bonds, but it is very important that the stock should have a good ready market. It is also much more serious for the investor to hold inactive stocks, than for him to hold inactive bonds, for the following reasons:—

(1) It is much easier to sell active or listed stocks than to sell inactive, unlisted stocks. As an investor may need to sell some of his investments at any time, it is quite important that he should be able to do so.

(2) It is very much easier to keep informed as to the standing and value of active, listed stocks than of inactive, unlisted stocks. As there is no obligation on the part of the company to purchase the stock at any given date or at any given price as in the case of bonds, it is necessary that the investor keep posted as to the value of his stock.

Listed Stocks.

Of course, intrinsically there is no reason why an unlisted stock should not be fully as good as a listed stock, and there are many unlisted stocks which intrinsically are better than many listed stocks; *but all investors when buying stocks should be advised to confine their purchases solely to*

listed, active, high-grade stocks, unless desiring to invest in some local enterprise with the business and management of which they are fully familiar.

If a stock is listed, it is possible to always keep in touch with the value, and sell it before the loss becomes too great; but if the stock is unlisted, there is no way to keep in touch with the value, and one often does not know that anything has gone wrong until he finds the stock is absolutely valueless.

Although some stocks listed on the New York Stock Exchange are of little value, yet none of these stocks are issued or advertised in a fraudulent way or by misrepresentation. There are many of our large industrial companies, the stocks of which are listed on the New York Stock Exchange, and which sell for only \$10 or \$20 a share with a par value of \$100. It is true that these stocks are not high-grade stocks and may not represent any actual value whatever other than good-will and voting-power. On the other hand, although the stock which sells at \$10 a share may not be worth a cent more than \$10 a share, nevertheless in many cases, it is worth the \$10 a share at which it is selling simply for its voting-power, and the fact that it carries control of a vast industry. Therefore, although only the purchase of the high-grade, dividend-paying, standard, listed stocks is to be recommended; nevertheless, if one is determined to purchase a low-grade, speculative stock, he had much better take his chances by purchasing one of the active, cheap stocks listed on the New York Stock Exchange than to purchase any of the inact-

ive stocks advertised in the Sunday newspapers at \$1 to \$10 a share or at any other figure. Ninety-nine out of one hundred losses made by investors each day come from the purchase of stocks which are not listed on the New York Stock Exchange. New York Stock Exchange is cited, as a short time ago an advertisement appeared in one of the papers of a certain stock which was practically worthless, but at the bottom of the advertisement were these words:—

“This stock is a listed stock, thus assuring to the purchaser an active market.”

This particular “listed” stock was listed, however, on an insignificant stock exchange in a small Western city. It is true that there are some outside Exchanges such as the Boston Stock Exchange, the Philadelphia Stock Exchange, the Baltimore Stock Exchange and others which are operated in a high-grade way, the securities being scrutinized before being listed. With a very few exceptions, it is well for the average investor who buys stocks to confine his purchases to stocks listed and actively traded in on the New York Stock Exchange.

Frauds Played on Investors.

Avoid all unlisted, inactive stocks, especially those of new companies when advertised broadcast at a low price per share. As it is impossible to obtain with safety a net income of more than 4-1/2 to 5% on good bonds, so it is impossible to obtain with absolute safety a net income of more than from 5-1/2 to 6% on stocks. Whenever a stock is

advertised to net more than 7%, investors may rest assured that it is not an absolutely high-grade stock. As to these offerings of stock which net 8% or 10% and over, they should not be bought under any circumstances.

It is true that we have thousands of propositions offered to us which promise to pay more; but upon studying them, we find that there is some flaw, and that it is unwise to advise their purchase. There are a score of engineering offices throughout the country which are devoting their energies exclusively to the work of endeavoring to find propositions which will safely pay more than 6%. These organizations throughout the country are working in the interest of men of large means, and for them are "scraping the country over with a fine tooth comb."

In short, it is almost a miracle for any good proposition to "get by" one of these large engineering organizations, whether it is a railroad or industrial property, a mine or an oil well; if it is any good and the stock will yield with safety more than a normal rate of interest for that class of investment, *all stock will immediately be purchased by these wealthy interests, and none of it will ever be offered in the daily papers to the small investor.* In fact, whenever the investor sees a stock of some new company offered in the daily papers to yield an abnormally high rate of interest, he may be reasonably certain that the property has been examined by several large engineering or statistical organizations and reported upon unfavorably. In

other words, when the small investor buys an unlisted, inactive stock, nine hundred and ninety-nine chances out of a thousand he is getting something which able men have looked into and have decided—after careful consideration—that they did not want.

Work of Post Office Department.

The good work which the Post Office Department is doing in trying to close up some of these dealers in illegitimate, unlisted securities, should be complimented. Our Postmaster-General is reported to have stated that the work recently accomplished has closed up seventy-eight of these dealers in such unlisted stocks during the year, and he assumes that “the swindling operations of these seventy-eight cases have filched from the American people in a period of five years, more than \$100,000,000.” One particular firm, according to the Government’s memorandum, has been selling stock in more than two dozen companies. The same official document goes on to say:

“It can safely be said that this firm has sold stock varying in value from \$40,000,000 to \$50,000,000 in the various companies; it had an extensive suite of offices in the Flatiron Building in New York city, and at times had offices in Cleveland, Chicago, Los Angeles and San Francisco.”

“In every instance, the members have promised large dividends on the stock sold, in addition to an increase in the value of the stock, but not in a single case have any of the companies paid any

dividends, and practically all of them have been complete failures."

"The department has received several hundred complaints from people who have bought this stock and lost their money."

Startling Evidence in a Fraudulent Case.

Examination of one firm's mail for the first three hours after the arrest of its officials gave startling evidence of the alacrity with which the public parts with its money in exchange for glittering promises. In this one batch of mail alone, it is stated that the Post-Office inspectors found more than \$20,000. The story, as told in the news columns of the New York Commercial, continues:

"And so slow is the 'come-on' to give up hope of 50-per-cent dividends that while the inspectors were still busy gathering up the papers and books before locking the office door, many telegrams were received asking that shares in these properties be reserved for the simple-minded writers until money could be forwarded.....

"The Post-Office people said that when this firm took parties to see their oil-wells, they always let them look upon real, spouting wells owned by some reputable company. The department has investigated all of the oil properties and has found them all to be worthless."

"Besides spending some of their client's money in private car trips, they paid out considerable sums to such newspapers as would print their advertisements. When the raid was made, the

inspectors found evidence that the concern had recently contracted for \$300,000 worth of newspaper advertising."

Comments of Leading Journals.

In this stream of capital flowing through the mails into the coffers of fraudulent promoters, the New York Evening Mail discovers "one factor in the high cost of living to which due attention has not been given."

"It helps to explain the circumstance that capital, nowadays, fails to accumulate as steadily and as rapidly as it did some years back. All business, particularly the railroads, have felt the difficulty of securing the funds they require to enlarge their plant and make various betterments. In a sense the country seems to be living from hand to mouth—that is, it is spending about all that it makes, and has little left for anything beyond the routine needs. The operations of the get-rich-quick concerns show one of the ratholes—a big one—through which surplus capital disappears.

"Other concerns using the mail are under investigation, we are told, and other raids and arrests are to follow, the Postmaster-General having announced that "the Government will drive from the country every wild-cat scheme to separate gullible investors from their money—so far as it is possible to do so."

But how much depends upon that qualifying clause! Note the *Literary Digest*, which quotes the New York *Evening World* as saying: "What a

flurry would there be in Wall Street and in the highest financial circles were such an effort to be fearlessly, intelligently, and comprehensively made!"

Therefore, although the stocks of a great number of our nation's most finely managed corporations are unlisted and very inactive, nevertheless the inexperienced investor should be advised against the purchase of any unlisted stocks which are publicly offered for sale to yield an abnormally high rate of interest. The holders of the above mentioned inactive stocks of our best corporations need, however, take no exception to this statement as it states, "Which are publicly offered," and their stocks are not publicly offered. When any stockholder desires to sell, the directors are always glad to purchase said stock, and it is never publicly offered. Moreover, no such stock probably yields more than 7% at the outside. Therefore, those interested in legitimate, inactive stocks need take no offense although their stocks are unlisted.

How to Obtain Information on Listed Stocks.

The fact should be emphasized that *because stocks are listed and actively traded in on the New York Stock Exchange, it is no reason why one should buy, or that they are a safe investment.* Some of the greatest losses which have come to investors have been through purchasing cheap stocks listed on the New York Stock Exchange; and there are probably several stocks listed thereon today which will be a loss to the holders thereof.

Foreign investors especially have lost large sums of money through the purchase of the cheap, listed stocks of some of our large railroad and industrial corporations. The American purchaser has usually stood by the reorganization, paid his assessment, received new securities, and these new securities have in many cases become worth very much more than the old securities. The foreign investor, not knowing the great latent wealth of our country, refused to "spend a new dollar to save an old one." A holder of Union Pacific Common stock at the time of reorganization, who did not pay his assessment, suffered a total loss; but those who paid the assessment and received new common stock, have made a most wonderful profit. The same Union Pacific stock which now sells at around \$170 a share, sold at the time of the reorganization for about \$8.00 a share; thus a man who had only \$8,000 in Union Pacific at that time, would today have over \$160,000 in addition to receiving \$10,000 each year as dividends! In other words, the American has the optimistic disposition necessary to realize the growth of the country, and at the time of a reorganization, pays his assessments and stands by the property. Companies which are now barely earning interest charges and whose common stocks are selling at very low figures may be reorganized, and the stock holders may be required to pay an assessment; but such stock holders who pay the assessment and who stand by the property are almost sure to get back their money and make a handsome profit. On the other hand, this cannot

be depended upon, and there will be some total losses ; in fact, enough to reduce the average profits on the profitable ventures so that the investor in the cheap stocks will make no more in the long run than if he had purchased only the best.

In justice to all, it is perhaps best to say also that it is a great temptation for investors to become panic stricken, refuse to pay the assessment, thus making a total loss. For this reason, the purchase of low grade speculative stocks should not be advised. Therefore, although listed stocks as a class have been spoken favorably of, yet it must be distinctly understood that *because such stocks are listed it does not mean that they are absolutely good.*

An Object Lesson in Holland.

If any one has any doubt of this, he should visit a large banking house in the Hague, Holland, the walls of one room of which are papered with valueless stock certificates of American companies, most all of which stocks were listed on the New York Stock Exchange. There is an old saying that, "You cannot beat the Dutch." This especially applies to the purchase of investments. The Dutch are very shrewd buyers and have probably made more money in the purchase of American stocks than any other class of European investors. The Dutch, however, when purchasing American stocks, confine their purchases to stocks which are listed and actively traded in on the New York Stock Exchange. It is much easier to interest all Euro-

pean investors in listed stocks than in unlisted stocks; in Holland especially this is true.

The well-known firm of Von Oss & Co. of the Hague, has papered one of the rooms of its fine banking house with these worthless stock certificates, as a constant reminder to its clientele that *because an American stock is listed on the New York Stock Exchange, it is by no means a good purchase.* It might be well for every public library in our land to have a similar room papered in a similar way, to keep the inhabitants of the city or village reminded of the necessity of buying only the highest grade, dividend-paying, standard stocks which have paid these dividends through periods of prosperity and depression, and have weathered every storm through which this country has been subjected.

Official Listing Notices.

The best source of information relative to listed securities is the Official Stock Exchange Listings made up from data furnished to the Stock Exchange by the proper officers of the various companies whose stocks are listed. Listing requirements will bear repeating. Before a company can have its securities listed on the Stock Exchange, it must prepare a detailed statement showing its condition and giving sufficient information to enable the committee to intelligently decide whether or not said securities are of real value. In addition to furnishing these original statements, the companies must furnish annual statements, thus giving

the Stock Exchange practically a yearly report of conditions and certain other information desired.

In addition, however, to these statements, the Stock Exchange must be notified any time that new stock is to be issued, and in order to have the new stock listed, a new and complete statement must be prepared bringing up-to-date all previous statements. In addition to keeping the original records in the office of the Secretary of the New York Stock Exchange which is accessible to all members, duplicate copies are mailed to all firms who are members of the New York Stock Exchange. These firms methodically file these "Listing Statements in their local offices for the benefit of their clients and all investors who may desire official information.

The next source of available information, is the actual yearly report of the company which may be obtained by writing the company direct. All companies whose stocks are listed on the New York Stock Exchange issue printed reports, which reports are usually sent voluntarily to all stock holders and on request to any one writing for the same. Moreover, all of the leading bond houses have these reports on file in their statistical department, and thus there is no excuse for an investor purchasing any listed security which is not strictly high-grade. If the investor lives in a small town and has no access to a brokerage office and cannot wait to send to the company for an official report, he should be able to obtain a detailed report at his local public library by inquiring for "The Corporation Service Manual." Any investor who understands the

underlying principles of investing can obtain valuable information from these reports.

Up to the present time, the above were the only official sources of information for the small investor; but since the new corporation tax law has been in vogue, which compels all corporations to file a statement at Washington, another source of information is available. Although one cannot obtain access to the report of the company whose stock is unlisted and is not being publicly offered, unless he is already a bona fide stock holder, yet the Secretary of the Treasury has very properly ruled that the information relative to companies whose stocks are listed on the New York Stock Exchange shall be public property. Certainly this is very much to the credit of the Secretary, and he deserves the thanks and hearty appreciation of all investors throughout our land.

Other Sources of Information.

But these are not all the sources of information, as nearly all railroads publish their earnings monthly, and many publish their earnings weekly, all of which may be obtained from the brokerage offices through a definite Card System issued by the Standard Statistics Company in New York City. Immediately when any earnings or news items of permanent value become known, concerning any company whose stock is listed on the New York Stock Exchange, this information is printed at the central office in New York on cards, (with a separate card for each item) and these cards are

mailed to the stock exchange firms and bond houses throughout the country every night. Upon receipt of them the next morning, the clerks in the respective houses file them alphabetically, in a card index cabinet. Thus at any time, if a person desires the very latest information relative to a company whose stocks or bonds are listed on the New York Stock Exchange, he has simply to go to his broker's office and ask to see the latest cards on said company, and this information is directly before him.

In addition to this, there are numerous financial papers, and what is most interesting of all, the news ticker services, whereby information is supplied every minute during the day by an electric printing machine from a central office in New York. Of course, these news tickers and financial papers do not make a specialty of listed investment securities, as in the case of the Card System above mentioned, but are designed more for the speculator than for the investor.

Bureau of Misleading Advice.

Up to the present point, we have referred simply to the source of actual information; that is, published facts, reports, earnings, financial notices, confirmed news items and other matters which are of practical and permanent value to the investor in aiding him to decide whether or not he should buy any stock in question. In addition to these, there are a vast number of periodicals, pamphlets, market letters and other publications, some sold and some distributed gratis, which propose to give analyses

of securities for the benefit of bona fide investors, but which are not worth reading. In fact, investors should shun many of these publications as they would shun smallpox, as many are designed to lead the investor astray. Of course some publishers claim that there is no difference between a legitimate analysis and a "write-up"; but there is a great difference. In the former case, the writer has no personal "axe to grind"; but, believing that he has some valuable information about some property of distinct interest to his subscribers, he prints the results of his study simply to increase the intrinsic value of his publication. "Write-ups," however, are given by publishers in exchange for money or for "calls" upon certain stock or for advertising or other purposes.

Unfortunately, considerable of this work is common, and the following statement by one publisher is probably true, "Well, if we didn't do it, the public would be obliged to pay us ten times as much for our papers as they do now." Granting, however, that there are many men who would rather pay a small price and be fooled as to news, than to pay a large price for a reliable publication, yet, right is right, and all "write-ups" should be eliminated and the subscription prices adjusted accordingly.

Manufactured Rumors.

Of all the illegitimate work of a financial editor, the very worst is the publication of known absolute falsehoods for their effect upon the stock

market; and however guilty certain publishers may be for circulating purchased "write-ups," yet very few are guilty of intentionally publishing what they know to be out-and-out untruths. In fact, our well-known publishers use every effort to eliminate such matter from their work. However, notwithstanding their diligence, many manufactured rumors persistently appear in print and cause considerable loss either to buyers or sellers.

Readers might also be warned against various cheap market letters and newspaper advertisements, especially such free advice as floats about most board rooms and brokers' offices. Advertisements of these miscellaneous organs may be found in Sunday papers, and should always be avoided. There is usually no source of such news at all, it being entirely manufactured under the direction of the person by whom it is distributed. In fact, it is said that many tipsters advise one-half of their clients to buy a certain stock, and the other half to sell it on the same day. All such tips should be avoided, for it is impossible for anyone to know how the market will act to-morrow or next week, or even next month. Long swings may be forecasted by a study of fundamental statistics; but one stands a much better chance to make money at roulette or dice than by playing for a one per cent profit on the daily movement of any stock.

How to distinguish between facts and "write-ups," or between legitimate rumors and manufactured tips is hard to explain as every one must depend to a certain extent upon his own intuition.

On the other hand, to be able to distinguish is very important in all instances, and absolutely necessary for those who are not willing or able to give a little time to definitely studying investments or who do not subscribe to the highest class of news services. Of course, both the honesty and the accuracy of every publication are generally known, and such reputation is common property which any one may learn by inquiring of their banks, brokers or bond dealers.

CHAPTER VIII.

SELECTING RAILROAD SECURITIES. (BONDS).

ONE of the best informed men in America on railroad securities, a man brought up under Huntington, and later selected by Mr. Hariman to take charge of an important division of his properties, after which he was selected by leading banking interests to be receiver of a large railroad, and who today holds a most important position in railroad circles, states that he has not a dollar invested in railroad securities of any kind. Although all his life has been in the service of railroads, his investments are almost exclusively in real estate, which certainly might be the basis of a good "selling talk" for those having real estate securities for sale! Nevertheless, he believes that next to municipal bonds, good railroad bonds represent the best form of personal investment, considering both yield and security. On the other hand, he bought real estate investments because, he said, "I have not time to study railroad investments, as they should be selected with great care." If this man, who is generally recognized as one of the greatest railroad men in the country, does not dare to purchase railroad securities for fear that he has not time to make the proper selections, it certainly behooves every investor to at least study the elementary principles relating to their selection. Therefore, there should be emphasized some simple rules which should aid the investor in making such

a selection. In fact, if these underlying principles are thoroughly grasped and a careful study is pursued, there is no reason why anyone should not be able to select perfectly safe and attractive railroad bonds for his personal investment.

Four Kinds of Railroad Bonds.

In a preceding chapter, the different legal forms of railroad bonds were carefully described, showing the reader how to distinguish between first mortgage bonds, consolidated mortgage bonds, refunding mortgage bonds, equipment bonds, terminal bonds, etc. We may refer to each of these different forms as a family, each having its own relation to its neighbors. Not only does each family in a neighborhood hold a different position, but its children have entirely different characteristics. For instance, four boys in a family have certain fundamental family traits; but each has his individual qualities. One of the boys is extremely conservative; another is rather a general all around boy; the third is not so conservative nor so popular as the others, but he has a fine head and is generally considered the ablest boy of the family. The fourth, however, is an antithesis of the first. He is of a very nervous, uncertain and almost foolhardy makeup. No one knows what he is to do next. He is always getting into trouble, although on the other hand he seems to have a happy faculty of always getting out again. He may bring great honors to the family name or great disgrace, and the chances are about even.

In the same way, every family of bonds has different members with different characteristics, and this especially applies to the railroad family. A family of railroad bonds consists of four members with different characteristics similar to those of the boys above mentioned. First, we have conservative railroad bonds such as those of old established lines, which have the same characteristics as the first boy mentioned above, and a very good motto is, "When in doubt buy only these of the most conservative."

Next, we have the inactive investment bonds yielding from four and one-half to five per cent, which are being continually offered by established bond houses of unrepachable character. These bonds have the same characteristics as the second mentioned all around boy. They are usually well secured, yield well and although often hard to sell, are very satisfactory permanent investments. In fact, for a person desiring to purchase bonds for income only, intending to hold same until maturity, such safe but inactive investment bonds are often the best kind he can buy.

The next class corresponds with the third boy mentioned,—the one full of business. Such railroad bonds are known as convertible bonds. Lastly, we have speculative bonds which compare with the fourth boy of our family. They may turn out well, or they may not, and it is well for the investor to let them alone.

The Best Bonds to Buy.

The *conservative* bonds first mentioned are usual-

ly underlying liens of large and established railroad systems. These bonds should be absolutely good, and as safe as any government or municipal bonds. On the other hand, their yield is comparatively small, usually not over four per cent, although some of these issues can be purchased on a basis to yield a little more. Inactive, investment bonds are usually the best issue on comparatively small or new properties. Such bonds yield from four and one-half to five per cent, and nineteen out of every twenty are absolutely good and ultimately develop into high grade bonds of the first or conservative class. For one to invest a reasonable amount of money in such bonds is entirely proper, provided he has made a study of them and purchases them from the highest grade houses and insists that they properly fulfill the tests hereinafter to be given. On the other hand, if one should invest all his money in such bonds yielding, say four and three-fourths per cent, he might eventually lose enough of his principal to reduce the final net yield on his money to about four per cent, thus giving them no distinct advantage over the first mentioned class of highest grade bonds.

Convertible Bonds.

Regarding convertible bonds an authority writes: "Convertible bonds get their title from the fact that the holders have the right to convert them into stock of the issuing companies, in accordance with the terms as outlined in the mortgages or deeds of trust. Such bonds are usually direct obligations of

the issuing companies. They are payable at par on a specified date, bear a fixed rate of interest, and come ahead of capital stocks. In most cases, however, they are junior to, or subject to underlying mortgages. The feature of convertible bonds making them so attractive to many investors is that they enable the holders to share in the general prosperity of the country. The evidences of the prosperity of railroads and corporations are growth of business and increased earnings, and these two things are reflected to a much greater degree through the enhancement of stock values than through the medium of any other form of security issue. It is therefore apparent that under certain conditions, holders of bonds convertible into stock may have a very valuable privilege.

“However, in considering the purchase of convertible bonds, the same rules should govern as in the selection of any railroad or corporation bonds. That is, the privilege of converting the bonds into stock does not add to the *security of the principal*. The value of the conversion is due solely to the possibility of the stock selling at prices beyond the conversion figures. If the stock should not do this, the conversion privilege is without value to the holders.

The main feature for the investor to remember about convertible bonds is as follows:—for those wishing to buy railroad bonds *with the idea of selling them again at a profit*, good listed convertible bonds are the best kind to purchase. Convertible bonds fluctuate most in price; are most readily

bought and sold and have several advantages. On the other hand, men who are willing to ignore the yield and study fundamental business conditions in order to know when is the proper time to buy and sell, should give most careful consideration to listed, convertible railroad bonds. We will illustrate a convertible bond issue by specific reference to the 3-1/2% convertible bonds of the Pennsylvania Railroad. The principal of these bonds is payable October 1, 1915, and the coupons, representing the 3-1/2% interest, are payable June and December 1st. The authorized issue is \$100,000,000. The Company reserves the right to pay off the bonds at par and interest on and after December 1, 1910. These bonds are convertible into stock of the Pennsylvania Railroad, prior to maturity, at the rate of \$75 a share for the stock, the par value of the stock being \$50.

"Therefore, based upon a par value of \$100 a share, these 3-1/2% bonds can be converted into Pennsylvania Railroad stock at \$150 a share. Assume that these bonds are now selling at about 97, \$970 for each \$1,000 Bond. This makes a difference in the stock conversion figures, for the reason that if a \$1,000 bond can be converted into stock at \$150 a share, it is obvious that if the bond costs only \$970, the conversion figure of the stock must be lower in proportion. For the sake of illustration, assume that Pennsylvania Railroad stock should sell at 165 for a full share prior to the maturity or the redemption of the convertible bonds, and a holder who paid 97, or \$970 for

a \$1,000 bond, converted the same into stock. Based upon a \$1,000 bond convertible into stock at \$150 a share, he would get $6\frac{2}{3}$ full shares of stock. But his bond did not cost him \$1,000. It cost him only \$970 so he gets $6\frac{2}{3}$ full shares of stock based upon a lower cost as already explained. Therefore, with stock selling at 165, his $6\frac{2}{3}$ full shares are worth \$1,100 representing a profit of \$130 over and above the original cost of his \$1,000 bond at 97 or \$970.

Speculative Bonds.

The speculative issues are usually new "Refunding issues," and are often not well secured. They may be compared with preferred stocks of medium grade properties. Such bonds are usually listed, and as long as they pay their interest, will yield about six per cent. Many of these issues eventually prove of permanent value and gradually enter the class of high grade bonds, increasing in price. On the other hand, many of them eventually default, the properties are reorganized, and the bondholders may be obliged to accept a loss. Therefore, although such issues often present an opportunity for great profit, they give a like chance for great loss. Such issues as a rule are not secure; they fluctuate greatly in price, and should not be recommended to the inexperienced investor.

The Factor of Safety.

The intelligent man is not content simply to take the opinion of others, but desires to study this

subject so that he may know how to arrive at a given decision, as to why one bond is safe and another is questionable. Therefore, after deciding which of the above four kinds of railroad bonds to buy, the first question naturally to be considered is the bonded debt per mile. In doing so one must ascertain the total amount of bonds outstanding of the issue under consideration, together with the total amount of other bonds which come either before or on the same level with the bonds which are being studied. This is the proper way to make a theoretical analysis. For instance, when studying the convertible bonds of the Atchison, Topeka & Santa Fe Railway Company, one should consider the entire indebtedness of said road including the amount of these bonds, and the amount of underlying liens outstanding. This is because the average bond buyer not only wishes a bond, both the interest and principal of which will be paid, but he also wishes a bond of a company which will never go into a receiver's hands. Therefore, the simplest and most practical method for the investor to use is to consider the entire bonded debt. The first part of a report on such an issue, could be something similar to the following:

"As shown in the company's report, on June 30, 1911, bonds of the Atchison, Topeka & Santa Fe Ry. Co. were outstanding to the amount of \$329,101,820 or at a total average rate of about \$31,797 per mile of road operated, namely 10,350 miles. Its fixed charges consumed only 12.9 per cent of the gross earnings, comparing with an allowable figure of about 16 per cent.

“For the fiscal year ending June 30, 1911, the total net income available for bond interest, rentals, and other fixed charges, after deducting taxes, amounted to about \$3,433 per mile, and these fixed charges amounted to about \$1,368 per mile. Therefore, these fixed charges consumed about 39.9 per cent of said net earnings, leaving a margin of about 60.1 per cent. The Atchison, Topeka & Santa Fe Ry. may be considered in that class where a margin of about 54 per cent is satisfactory. Therefore, all bond issues of this company may be classed as fairly conservative investments.

“Compared with 1910, the report for the year ending June 30, 1911, showing an increase in total net income per mile of about 0.8 per cent and an increase in fixed charges per mile of 1.6 per cent, which caused this margin, over and above fixed charges, to change from 60.5 per cent to 60.1 per cent.

This “margin” above mentioned of 60.1 per cent is often called the “factor of safety”—or the amount which must be wiped out before the bonds are disturbed. It is the first figure for the bond buyer to hunt for. The reason for this is because the great inflexible factor which concerns every railroad operator is his road’s fixed charges. The gross income can be increased by building up business, the operating expenses can be decreased by economizing; but the “fixed charges,” that is, the interest on the bonded debt, etc., is a fixed quantity. As long as the directors can pay their fixed charges, all goes well; but the moment that the fixed charges

cannot be paid, a receiver is appointed and the bondholders assume the management.

Fixed Charges.

A railroad may cut down on maintenance and cut expenses to the limit, but it must meet its fixed charges if it is going to keep away from a receivership. Holders of bonds will insist on receiving their interest, and if the road has leased lines, rents must also be paid. Unlike an individual, a railroad has not the alternative of moving; hence these items—interest and rentals—are called fixed charges. They are definite predetermined amounts and should not vary much from one year to the next. Moreover, when they do vary, they usually increase instead of decrease.

The investor analyzing the securities of a road must not consider fixed charges separately, but only in connection with the earnings available to pay them. The simple fact that road A has fixed charges twice as large as road B, does not mean that A's bonds are not as secure as B's. A's earnings may be twice as large as B's, and if A and B both spend the same proportion of gross on fixed charges, traffic and transportation expenses, A will have more for maintenance and surplus.

It is not safe to consider fixed charges without also considering the ratio of operating expenses to gross. The investor cannot set a definite per cent of net as a proper limit for fixed charges. An equal per cent of net consumed by fixed charges in each of two roads might mean a much larger per

cent of gross consumed in the case of one than in the other. A decrease in gross would then affect one much more seriously than the other.

To sum up, small fixed charges do not mean much if the earnings are also small; an equal amount per mile may make much more of a hole in the earnings of one road than in those of another. The investor, lastly, should make sure that the figure for fixed charges is as small as it should be compared with the gross; that the railroad company has included interest on all of its bonds; and is being well maintained. The point to remember here is;—When selecting a railroad bond, buy one which has a large margin of safety—if possible 50 per cent or more, that is, whose fixed charges do not consume more than 50 per cent of the net earnings nor more than 20 per cent of the total gross earnings.

The first mortgage bonds of a company should come first unless there are special issues such as prior liens, receivers' certificates and sometimes first mortgage equipment bonds which may come ahead. Prior lien bonds are usually issued only for a short time and are issued by the consent of the present bondholders. The receivers' certificates are issued by the receiver, who has been appointed after a default on the payment of any of the obligations of the company, and these may come ahead of the first mortgage bonds.

Certain first mortgage equipment bonds have, within the last few years taken priority over the first mortgage bonds, as it has been decided by the

courts that the equipment is a necessary part of the road, and without same, the road would be absolutely crippled. In the case of the reorganization of the Atchison, Topeka & Santa Fe in 1895, the court authorized the payment of interest and maturing principal of the equipment obligations, while other mortgage bonds were in default as to interest, and under the reorganization, all of the securities were either reduced in rate or refunded at a less amount, with one exception; while each \$1,000 equipment bond was exchanged for \$1,200 in general mortgage bonds.

Second mortgage bonds, third mortgage bonds, etc. would follow the first mortgage bonds. Then usually come the consolidated mortgage bonds, the general and refunding mortgage, debenture bonds, collateral trust bonds, convertible bonds, notes and income bonds. It is also important that the investor should be able to ascertain approximately the equity back of any particular issue in which he is especially interested. This may be well illustrated by saying that the equity back of a first mortgage bond is equal to the market value of all the junior securities and the notes and stock of the company. If the consolidated mortgage bonds directly follow the first mortgage bonds, their equity is the market value of all the securities less their par value and the par value of the first mortgage bonds.

CHAPTER IX.

HOW TO READ A RAILROAD REPORT.

Income.

AFTER ascertaining the total bonded debt of a railroad and the fixed charges necessary to pay the interest on said debt and keep the railroad out of receivership, the next important question refers to the income available for paying said fixed charges. Therefore, to continue our illustration, in the case of the Atchison, Topeka & Santa Fe Ry. Co., a report thereon would read somewhat as follows:—

“The gross income of the property for the year ending June 30, 1911, amounted to \$107,565,116 or about \$10,393 per mile. The growth of these earnings since 1900 is shown as follows:—

Year	Total Gross	Per Mile	Total Net	Per Mile
1900	\$46,232,078	\$6,297.49	\$18,977,399	\$2,585.12
1901	54,474,823	6,977.41	22,544,434	2,887.72
1902	59,135,086	7,527.97	26,366,675	3,356.67
1903	62,350,397	7,827.92	25,231,280	3,167.77
1904	68,171,200	8,334.31	27,197,943	3,324.93
1905	68,375,837	8,232.70	23,672,355	2,850.37
1906	78,044,347	8,828.01	31,774,665	3,471.50
1907	93,683,407	10,102.65	33,111,966	3,571.00
1908	90,617,796	9,624.82	27,221,147	2,891.00
1909	94,265,717	9,624.00	34,913,678	3,564.00
1910	104,993,195	10,588.00	33,775,011	3,406.00
1911	107,565,116	10,393.00	35,529,623	3,433.00
1912	107,752,360	10,139.00	34,842,671	3,278.41
1913	116,896,252	10,874.00	37,107,189	3,451.73

In the above table, two kinds of income are referred to; viz., gross income and net income. Most railroads receive their income from four sources; *first*, passengers; *second*, freight; *third*,

dividends and interest from securities held; and *fourth*, from miscellaneous sources, such as advertising, telegraphing, expressage, etc. It is always desirable to buy securities of roads which have shown a continual increase in both gross and net earnings. Moreover, this increase is better represented in *earnings per mile*. The road which obtains greater gross earnings simply by increasing the mileage is not growing; but if the *earnings per mile of road are increasing*, and especially *per share of stock outstanding*, such a road is growing in a healthy manner. Therefore the gross earnings should first be considered when selecting a railroad bond.

However, the bondholders ultimately are not so much interested in what the conductors and freight agents collect, as in what the treasurer "has left after all bills have been paid. This remaining money is known as the "net earnings," which amount is the gross earnings *less the operating expenses*; or technically the gross earnings less the operating expenses *plus "other income,"* as the above report includes among the earnings, receipts other than from strictly transportation.

Another term often used in reports on railroad bonds is the "operating ratio" which is the percentage of the operating expenses to the gross earnings. Most investors give too great importance to this operating ratio. One road will report an operating ratio of fifty per cent and another of sixty per cent, and the investor jumps at the assumption that the bonds of the road whose ex-

penses are only fifty per cent of the gross receipts are much better to hold than those of the road where sixty per cent of the gross is being spent on operating expenses. This is often a great mistake as the operating ratio or the ratio which expenses bear to gross earnings has very little significance. *All depends upon how much the two roads spend respectively on maintenance.* An increase in maintenance costs may serve to reduce the net cost of transportation. If the road operating for fifty per cent has a similar traffic and territory and is spending as much for maintenance, then such a road is being more efficiently operated, but otherwise not. One may readily realize that the road spending sixty per cent on operating expenses may be putting back into the property a much larger amount by renewing ties, changing to heavier rails, building stronger bridges, etc., than the first mentioned property and if so, it may be much better for the investor to hold securities in the road with an operating ratio of sixty per cent.

If all roads were located in the same territory, and had the same character of traffic, it would be possible to ascertain the proper percentage of the gross earnings required for maintenance; but this is now very difficult. All depends on the territory and the character of the traffic. Western and southern roads with gross earnings of from \$6,000 to \$7,000 per mile should expend almost twenty-five per cent of the gross earnings for maintenance; but with large eastern roads having gross earnings per mile of \$20,000, an expenditure of from fifteen to twenty per cent should be satisfactory.

Operating Expenses.

Operating expenses are usually divided into five headings, viz. :—

- (1) Transportation Expenses
- (2) Traffic Expenses
- (3) General Expenses
- (4) Maintenance of Way and Structures
- (5) Maintenance of Equipment

The items to be charged to these five different accounts have been prescribed in detail by the Interstate Commerce Commission. The law relating to these methods of accounting went into effect July 1, 1907, and the railroad reports based on the same, commenced with the fiscal year ending June 30, 1908. Instructions may be obtained from the Interstate Commerce Commission explaining in detail each of these five items; but briefly they are as follows:—

(1) *Transportation expenses* include wages of engineers, firemen, trainmen, flagmen, yardmen, clerks, and all station and other employees. Transportation expenses also include the cost of coal and other fuel, oil and water supplies, telegraph and other services. They include furthermore, all losses for damages and similar items.

(2) *Traffic expenses* include wages of officers and other employees directly in charge of traffic, such as passenger, freight, baggage and other agents, including advertising expenses and certain expenses connected with the operation of fast freight lines, etc.

(3) *General expenses* include the salaries of the president, vice-president and other general officers, together with their clerks. Also attorney's expenses, insurance premiums, and other items which cannot be charged to any one of the other four divisions are included under this third head of general expenses.

(4) *Maintenance of way and structures* includes expenses for renewals and repairs of road way and track, including ballasting, repairs of bridges, culverts and switches, as well as shops and buildings. In short, the renewal or repair of anything that is immovable is charged to the maintenance of way and structures.

(5) *Maintenance of equipment* includes expenses for the renewals and repairs of locomotives, passenger cars, freight cars and other equipment, including water equipment if the company operates any steamships, tugs or barges.

Now, what the reader should remember is that the amount of expenditures which come under the first three headings is wholly obligatory and dependent upon the mileage, volume of business and the efficiency of operation. *The road whose proportion of gross expended on these first three items is the least, usually represents the highest efficiency of management*, and if the operating ratio included only these three items, it would be worthy of careful consideration. It is well, however, to look into these items separately.

Practically the total expenses as reported also include items four and five which are subject to the

control of the board of directors. If the directors wish to make a good showing, that is, have a low percentage of operation and a high percentage of net earnings, they can economize on items four and five and "skin the road," to use a popular phrase. On the other hand, a road with small net earnings may be spending a large amount of money on items four and five, and consequently be in a much stronger position. Therefore, when examining the operating expenses of any company, it is very necessary to analyze said expenses, and note how liberal the management is relative to the amount spent on maintenance.

Transportation, Traffic and General Expenses.

These are the first expenses which a road must pay. The average man having a mortgage on his house feels that the interest on said mortgage is the first expense which he must meet, and certainly this interest must be paid before he can set aside any permanent savings or purchase automobiles and other luxuries. On the other hand, the family must be fed even before the interest is paid on the mortgage; and thus a railroad must pay for its labor, coal and oil before it even considers the payment of interests on its bonds.

The investor, however, need not consider these first three headings independently, but lump them together *and consider the percentage of gross earnings spent for transportation, traffic and general expenses.* When this percentage is obtained and

the percentage of gross required for fixed charges, then the percentage remaining can be used either for maintenance or dividends. Of course, there are other important factors such as "engine and train mileage," "car and train loading," "engine and train mile cost and earnings"; but these cannot be considered here. Experts state that on averaging all railroads of the country, the expenses coming under these three items have consumed less than forty per cent of the total gross earnings. If twenty per cent has been consumed by fixed charges, this may mean a forced expenditure of sixty per cent, leaving a surplus of about forty per cent, all of which may be used wholly for dividends, or part may be put back into the property, which of course, is a more conservative method.

The principal point to remember regarding these items is that, with two roads doing a similar business, if one consumes for operation a relatively larger percentage of gross than the other, it means one or both of two facts; "either that with relatively like rates for the work performed, one road is not conducting its business with the same degree of economy as the other, or that, with like relative economy in the conduct of its business, the rates received by it for work performed are relatively smaller." The authority for the above statement illustrates the same by calling attention to the fact that the Chicago, Milwaukee & St. Paul Railway Company, (which by the way has extended its line to the Pacific Coast) and the Chicago Great Western Railway Company has had (until recently) a

similar character of business; yet these three items of expense during a term of years have consumed an average of about fifty per cent of the Chicago Great Western's earnings compared with only forty per cent in the case of the St. Paul's. This, therefore, means that the St. Paul, owing either to its physical condition or the character of its management, was then operated much more economically than the Chicago Great Western, and investors who took the trouble to look this up were forewarned against purchasing the securities of the latter, and consequently did not get caught at the time of the recent receivership.

When looking over a list of roads, one should carefully consider the percentage of gross earnings which the given road is required to use for the payment of these first three items and its fixed charges, knowing that what remains can be used for either maintenance or dividends, and is the real margin of safety over and above the actual expenses and interest charges. *For this and other reasons, the bonds of a railroad with the greatest margin of safety should be the safest to buy.*

Maintenance Expenses.

Up to the present point we have considered only fixed charges and actual expenses; thus leaving two main items to discuss; one, "maintenance," and the other, "surplus left for dividends, etc.". The great weakness of most American railroads today is the small percentage charged to maintenance. It is true that a large sum is *spent* upon maintenance,

but there is a vast difference between *spending* money upon maintenance and *charging* it to the maintenance account. For instance, every month or so, an office manager may purchase a new typewriter for the business; but he should not charge this amount to "capital account"; but rather simply to "operating account" as a part of the maintenance expenses. Most of our railroads, however, when purchasing a new locomotive immediately charge the same to capital account and not to maintenance and operation. This is becoming a very serious problem, and the most unfortunate part of it is that these roads are said to be encouraged in this by the authorities at Washington. These authorities, in order to please the public and force lower rates, are urging the roads to show as large a percentage as possible for dividends instead of encouraging them to charge everything possible to operation.

Of course, one may be over-pessimistic, but it seems that the present method of rolling up these huge bonded debts and making no provision for the same is absolutely wrong. It is true that the average bonded debt can probably be refunded when due; but there is a limit to everything, and such a hope cannot be banked on indefinitely. When one considers that many of our large railroad systems have increased their debt two or three hundred per cent during the past ten years, it fairly makes one shudder. If these roads will stop at once, there will be no trouble; but this rate of increase cannot long continue, and the only

remedy is either to stop making improvements on these roads, or else charge said improvements to operating expenses and raise the rates correspondingly. The latter method should be adopted for who would not much prefer to pay 2-1/4 cents per mile to ride over a 100 pound, double tracked, rock ballasted road with safety signals, than to ride over a road with 60 pound rails, single track and without modern safety appliances at two cents per mile? In short, most roads in the United States with a continuance of the increase in earnings which they have averaged during the past few years can maintain their properties and pay interest on their bonds; but there are many railroads which cannot do this and pay dividends on its stock in addition. As, however, the average stockholder is human, he urges the directors to pay dividends and "trust to luck" for maintenance.

Maintenance of Way.

In ascertaining whether the proper amount has been spent on maintenance of way, one should first divide the total expenses by the mileage and ascertain the amount spent per mile. Of course, when an expert is preparing a detailed report, such figures are checked by ascertaining the amount spent on maintenance per "one million ton miles carried" per mile of road, as the amount of traffic is an important factor. Also the territory in which the road operates is an important consideration, as more per mile should be spent on a mountainous road such as the Denver & Rio Grande than on a

level road, such as the Illinois Central Railroad. One should also consider the possibility of obtaining material,—that is, whether gravel, rock ballast and other supplies are immediately adjoining the property or must be hauled a long distance. One road for instance, may spend only \$750 per mile for maintenance of way, and yet keep its property in better condition than another road spending over \$1,000 per mile.

It is plain that a road with considerable double track should require a larger expenditure per mile of road, as technically “per mile of road” refers to the road bed and does not consider whether it contains only a single track as across the Arizona Desert or a four-track line as between New York and Pennsylvania. In short, experts state that when a railroad’s maintenance of way expenses average below \$800 per mile of track, the investor should purchase only old, underlying liens or else carefully examine conditions. Other experts claim that Southern and Western roads are justified in spending only from \$900 to \$1,100 per mile of track for maintenance, while the large Eastern trunk lines are justified in limiting their expenditures per mile of track (not per mile of road) to \$1,300 or \$1,400.

Maintenance of Equipment.

Maintenance of equipment figures are also given on a per mile basis, but this is of very little practical benefit; and Floyd W. Mundy, an authority on this subject, states as follows:—

“Comparison of the maintenance of equipment expenses per mile of road avails little. The best basis for testing the efficiency of these is to ascertain the average amount expended on equipment per unit of service rendered by the equipment; that is, the average outlay per locomotive per mile run, per freight car per mile run, and per passenger car per mile. Maintenance of equipment depends not alone upon the amount of equipment to be maintained, but also upon the service rendered by the equipment. It stands to reason that the Erie Railroad, for example, with a freight density, as of 1911, of 3,013,502 ton miles and a passenger density of 267,749 passenger miles per mile of road, must expend more per mile of road for ‘Maintenance of Equipment’ than the Atchison, with a freight density, that same year, of 674,538 ton miles, and a passenger density of 122,616 passenger miles per mile of road.

“An example which tends to establish that equipment maintenance has necessarily no relation to gross earnings. Suppose the tonnage of one road consists altogether of low class freight, as coal or iron ores, and the tonnage of another road wholly of high class freight. Each road earns \$18,000 per mile. The density of the first road’s traffic, and as a consequence, the service rendered by its equipment, must be far greater than that of the second road. The business of the one road might be successfully conducted with one-third of the equipment and power required by the other.

“It may be said that under present conditions

about 5-1/2 to 6-1/2 cents per locomotive per mile run, 5 to 7 mills per freight car per mile run and 1-1/4 cents per passenger car per mile run represent fair annual outlays for equipment maintenance, or that an average of \$2,000 to \$2,500 per annum per locomotive, \$55 to \$65 per annum per freight car and \$650 per annum per passenger car approximate normal maintenance requirements. All this depends much upon the character of equipment required in the service, locomotive maintenance sometimes going as high as \$5,000 per annum, freight car \$500, and passenger car \$2,000.

"There are many roads where, although maintenance both for roadway and equipment is clearly surcharged, the extent of the excess of maintenance over normal requirements cannot be taken as present earning power. Take again, for example, the Erie or Atchison as distinct from some higher grade railroads. While some higher grade railroads may not report a surplus much in excess of dividend requirements, yet the dividends appear secure for the reason that when there comes a bad year, there is, and for years has been, abundant opportunity for curtailment of maintenance expenses. After reorganization, the properties of the Erie and Atchison were turned over to the new managers in a deplorable physical condition. Here the needs were so unusual as to make imperative, extraordinary charges to operating expenses for maintenance. The excess of these expenses over normal

requirements could be considered only as offering opportunity for future retrenchment. It could in no way be taken as an immediate margin of safety. Following the rulings of the Interstate Commerce Commission, a majority of the railroad companies charged to 'Maintenance of Equipment' during the last fiscal year amounts for depreciation varying from six per cent to one per cent and less. From even a casual examination of the railroad reports for the past fiscal year, it is apparent that until the Commission shall specify the exact rate to be charged on account of depreciation of equipment, the desired result for which the law was enacted will not be attained.

For those who want to study this subject so as to be able to select their own railroad investments, the suggestions in this and in the previous chapter, are none too exhaustive. This analysis, of course, requires time and study.

In short, the purchaser of railroad bonds should *first* ascertain the fixed charges, the relation of said fixed charges to the total net income, and also to the total gross income. If said fixed charges are not over 50 per cent of the net income and not over 20 per cent of the gross income then, all things being equal, the bonds secured by a first mortgage on such property should be perfectly safe. If, however, either of the above tests fail, an examination of the maintenance account should *next* be considered.

If the bond salesman, who needs to be well posted in order to bring out these points, shows that the



road is spending an abnormally large amount on maintenance, one may still be justified in purchasing the bonds; but if the maintenance figures are small compared with other roads located in the same territory, then it is well either not to purchase any securities of said road or else confine one's investments to the old, underlying liens.

Of course, the reader should not lose sight of the difference in priority of different issues. Some of the bond issues of a company, with a number of issues outstanding, will of course, take precedence over the others, and this fact of priority of liens is a very important one for the investor to ascertain.

This, however, has previously been treated; sufficient it must be to say that buying railroad bonds is much like buying automobiles. If you are a good mechanic and thoroughly understand all the "outs" as well as the "ins," you may feel free to consider any one of the various makes of cars, as every make has some good point and is worth some price. If, however, you are not an expert, or you are unwilling to give a little time to studying the different makes, you had better confine yourself to the best makes and only reputable agents. In the same way, if the investor is unable to give a little of his time to definitely studying the subject of investments so that he can figure out values, important calculations and equities for himself, he had better confine his purchases to the underlying liens of old established properties and pay the price.

CHAPTER X.

SELECTING RAILROAD SECURITIES. (STOCKS).

WE have considered the three main features of a railroad report; first, the amount required for fixed charges, second, the amount required for operating expenses, and third, that portion of operating expenses used for maintenance. So far as the bond buyer is concerned, these are practically the only items he needs seriously consider. Before purchasing the stock of a railroad, however, there are other features which should be studied, the principal of which is the percentage of gross earnings available for dividends, or to go a step further, *the percentage earned on the stock.*

How The Expert Writes His Report.

When the stock of a railroad is being considered, it is generally assumed that the client would not consider said stock, unless the bonds are perfectly good. Therefore, if the relation of fixed charges to the net and gross earnings is satisfactory, an effort is then made only to ascertain *first*, the per cent of gross remaining for maintenance and dividends after the payment of necessary operating expenses and fixed charges; and *second*, the amount remaining for dividends on the Preferred and Common stocks after the payment of all operating expenses including maintenance, together with fixed charges. For instance, in a report relative

to the stock of the Atchison, Topeka & Santa Fé Railway Company for the year ending June 30, 1911, a statement appears as follows:—

“Preferred stock of the Atchison, Topeka & Santa Fé Ry. Co. is outstanding to the amount of \$114,173,730, or at a total average rate of \$11,031 per mile of road operated. The surplus with which to pay dividends thereon amounts to 19.5 per cent of the gross earnings, comparing with an allowable figure of about 17 per cent. For the fiscal year ending June 30, 1911, the total income available for dividends on the Preferred Stock, after the payment of all fixed charges, etc., amounted to about \$2,065 per mile and the full dividends on the Preferred Stock require about \$551 per mile. Therefore, about \$18.72 per share was earned with which to pay full Preferred dividends of \$5.00 per share, leaving a margin of about \$13.72 per share. This company is considered in the class where such a margin over and above the Preferred dividends is satisfactory. The increase in net earnings for the year ending June 30, 1911, compared with the previous year, caused this “amount earned on the Preferred” to change from \$17.89 to \$18.72.

“The Common Stock of the Atchison, Topeka & Santa Fé Ry. Co. was outstanding to the amount of \$168,430,500 or a total average of about \$16,273 per mile of road operated. The surplus with which to pay dividends thereon amounted to 13.9 per cent of the gross earnings, compared with an allowable figure of about 11 per cent. For the fiscal year ending June 30, 1911, the surplus in-

come available for dividends on the Common Stock, after payment of all fixed charges and full dividends on the Preferred Stock, amounted to about \$1,415 per mile, and a dividend of \$6.00 per share on the Common required \$9.60 per mile. Therefore about \$9.30 per share was earned with which to pay the present \$6.00 per share dividends on the Common Stock. It is interesting to note that the change in earnings, fixed charges, and amount of common stock outstanding for the year ending June 30, 1911, caused the "amount earned" on the Common Stock to change from \$8.89 per share to \$9.30 per share."

In ascertaining the amount earned on the stock of any given road, a series of years should be taken; for if the earnings for only one or two years are used, there is great liability that an unfair ratio may be obtained. A number of things might happen which would temporarily affect the earnings over a short period, but which would not materially change the earnings over a period of five years. The amount earned on the stock is an important figure; but it should be used carefully, and not without considering the stability of the gross earnings. For instance, two roads may be earning the same per cent, and yet one may have a much larger margin of safety than the other. They both may be earning ten per cent on their capital stock, but one may have a capitalization of \$50,000,000 and the other \$30,000,000. If, however, in some poor year, there should be a great decrease in the gross earnings, and both companies

should suffer alike, the company with the larger capitalization and larger gross earnings would have a balance left for dividends, while the earnings of the second road might be entirely wiped out. The emphasis here may be placed upon the fact that the "margin of safety" of two roads, each earning ten per cent on capital stock, is by no means the same.

The surplus may be used in making a comparison of two companies but only after various other items such as proper maintenance, etc. have been considered. As was previously explained, it is very important that a certain per cent of the gross earnings should be spent for maintenance each year upon every railroad in the United States. It can be readily seen that should it be found necessary to cut down the maintenance charges for one reason or another, the surplus might be greatly increased, or if maintenance is increased, the surplus be decreased, other items being the same. This is well illustrated by taking two roads, the first of which found it impossible to appropriate the necessary percentage of its gross for maintenance over a period of years, while the expenditures of the second for maintenance were even more than was absolutely necessary. If both roads should experience very prosperous times over a series of years, the first would be obliged to increase its maintenance charges much more in proportion than would the second road, and thus not be able to add its additional earnings to surplus. The second road might possibly be able to keep its maintenance charges at the same rate, thereby being enabled to

increase its surplus and indirectly its margin of safety. The gross earnings of two roads, with a vast difference in miles owned but approximately the same capitalization per mile, may be equal, and in which case it will be readily seen that the smaller road may be greatly over-capitalized, and the margin of safety upon its capital stock must necessarily be very small.

It will often be noticed that some of the larger roads have a large leasehold interest and consequently guarantee the payment of the dividends upon the stock of the leased lines. This, in prosperous years, will prove a great advantage, as increased earnings of leased lines will add greatly to the income of the guaranteeing company; but should a year of poor earnings and depression set in, this guaranteeing company may earn an amount equal only to what it has previously paid as dividends on its own stock. As such guarantees are for definite dividends on the stock of a number of other roads, and the company is obliged to pay these before any dividends can be paid on their own stock, this may make it necessary for the parent company to reduce its own dividends.

Average Figures.

Instead of further describing the various factors to consider in a railroad report when selecting a stock for investment purposes, a list of average figures is prepared which enables the investor to quickly make tests for himself. It will be remembered that the first item of importance is to note

the per cent of gross earnings consumed by fixed charges, it being stated that bonds of a road consuming more than twenty per cent are not usually considered safe and conservative. The second main feature of importance, as is evident from this elementary article, is the margin over fixed charges, or the leeway which a company has for the possibility of decreased earnings before using up its total net earnings. These two items should be carefully studied when considering the purchase of a railroad bond.

When considering the stock of a company, another item should be considered, namely, the percentage of gross available for dividends. These three factors are the most important features contained in the report of any railroad company, and the investor should thoroughly understand the meaning and use of these three items in order to quickly interpret any railroad report. It will be seen that the first and last of these percentages are based on gross earnings, while the second one is based on net earnings. All three items combined, however, present a formidable and very conclusive digest of an entire report.

In a small country like England it would be necessary to give only three average figures, one for each of these three factors by which almost every report could be judged; but in a large country like the United States, such a procedure is very unfair. For instance, it has been worked out that in the case of the New York, New Haven & Hartford Railroad Company, it is entirely proper that

the fixed charges should consume 22 per cent of the gross earnings, that a margin of 36 per cent over fixed charges is safe, and that, if the surplus amounts to 11 per cent of the gross earnings, said surplus is satisfactory. It also would be entirely justifiable to use these same figures for the Boston & Maine Railroad Company, and thus these two systems can be readily compared. On the other hand, to use the same figures to test the New York, New Haven & Hartford system and the St. Louis & San Francisco system would be entirely improper.

Instead of being located in a thickly settled New England territory with fairly regular traffic, the St. Louis & San Francisco Railroad is located in Oklahoma, Texas and other Southwestern territory, which is sparsely settled and where the traffic is very largely dependent upon the crops, thus subject to great fluctuations. Consequently, to have the bonds of the St. Louis & San Francisco Railroad Company as good as the bonds of the New Haven, the fixed charges of the St. Louis & San Francisco system should consume not more than 15 per cent of the gross earnings and the margin of safety over fixed charges should be 57 per cent. To have the stock of the St. Louis & San Francisco a conservative investment stock, at least 18 per cent of the gross earnings should be available for dividends.

The Great Railroad Zones.

This therefore, necessitates dividing our country into different zones, or dividing the railroads of

our country into different groups. Leading experts have for convenience settled on eight groups, and these roughly are as follows:—

- (1) Roads in the New England States.
- (2) Northern Eastern Roads.
- (3) Connecting Trunk Lines.
- (4) Middle Western Roads.
- (5) The Pacific Roads.
- (6) The Southern Roads.
- (7) Pacific-Southern Roads.
- (8) Southwestern Roads.

Of course, it is impossible to draw arbitrary lines, and one must use judgment in deciding to which group a given road belongs. A list of one hundred leading roads in the country, however, together with the group to which they are usually assigned, is herewith annexed. This list may be used by the investor in ascertaining to what group a road belongs; then, by referring to the following table, he may quickly obtain the percentages which he will use in testing the report of the road in question.

Table for Testing Railroad Securities.

Group	Per cent of Gross Consumed by Fixed Charges	Margin over Fixed Charges	Per cent of Gross Allotted to Surplus
1	22	36	11
2	21	39	12
3	20	42	13
4	19	45	14
5	18	48	15
6	17	51	16
7	16	54	17
8	15	57	18

Index Showing to What Group Any Railroad Belongs.

(Underlying liens of any of these should be safe investments).

Alabama Great Southern	6
Ann Arbor	4
Atchison, Topeka & Santa Fé	7
Atlantic Coast Line	6
Baltimore & Ohio	2
Bangor & Aroostook	3
Boston & Maine	1
Buffalo, Rochester & Pittsburg	4
Canadian Northern	5
Canadian Pacific	5
Central of Georgia	6
Central Railroad of New Jersey	2
Chesapeake & Ohio	3
Chicago & Alton	4
Chicago & Eastern Illinois	4
Chicago & North Western	4
Chicago, Burlington & Quincy	4
Chicago Great Western	4
Chicago, Indiana & Southern	4
Chicago, Indianapolis & Louisville	4
Chicago, Milwaukee & St. Paul	5
Chicago, St. Paul, Minneapolis & Omaha	5
Cincinnati, Hamilton & Dayton	4
Cincinnati, New Orleans & Texas Pacific	6
Cleveland, Cincinnati, Chicago & St. Louis	4
Cleveland, Lorain & Wheeling	4
Colorado & Southern	7

Cuba Railroad	4
Delaware & Hudson	3
Delaware, Lackawanna & Western	3
Denver & Rio Grande	7
Detroit, Toledo & Ironton	4
Duluth, South Shore & Atlantic	5
Erie	3
Evansville & Terre Haute	4
Fort Worth & Denver City	7
Georgia Southern & Florida	6
Grand Rapids & Indiana	4
Grand Trunk Railway of Canada	5
Grand Trunk Pacific	5
Great Northern	5
Hocking Valley	4
Illinois Central	4
Indiana, Illinois & Iowa	4
International & Great Northern	8
Iowa Central	4
Kanawha & Michigan	4
Kansas City Southern	6
Lake Erie & Western	4
Lake Shore & Michigan Southern	2
Lehigh Valley	3
Long Island	2
Louisville & Nashville	4
Maine Central	1
Michigan Central	2
Minneapolis & St. Louis	4
Minneapolis, St. Paul & Sault Ste Marie	5
Missouri, Kansas & Texas	6
Missouri Pacific System	5

Mobile & Ohio	6
Nashville, Chattanooga & St. Louis	5
New York Central & Hudson River	2
New York, Chicago & St. Louis	2
New York, New Haven & Hartford	1
New York, Ontario & Western	3
New York, Susquehanna & Western	3
Norfolk & Western	3
Northern Central	3
Northern Pacific	5
Pennsylvania	2
Pennsylvania Company	2
Pere Marquette	4
Peoria & Eastern	4
Philadelphia & Erie	3
Philadelphia, Baltimore & Washington	2
Pittsburgh & Lake Erie	3
Pittsburgh, Cincinnati, Chicago & St. Louis	3
Reading Company	3
Rock Island System	7
Rutland	1
St. Louis & San Francisco	8
St. Louis & Southwestern	8
Seaboard Air Line	6
Southern Pacific System	5
Southern	6
Texas & Pacific	8
Toledo & Ohio Central	4
Toledo, St. Louis & Western	4
Union Pacific	5
Vandalia	4
Wabash	4

West Jersey & Seashore	3
Western Maryland	3
Western Pacific	5
Wheeling & Lake Erie	4
Wisconsin Central	4
Yazoo & Mississippi Valley	6

It will be seen that the above table affords a simple method of testing a report of any railroad company, it being necessary simply to ascertain to what group the road belongs and then to test the actual percentages by the ideal percentages given for that particular group. By working out the figures on two roads, their stocks may be readily compared by noticing which road makes the best showing compared with the ideal figures for its group.

Of course, when stocks are purchased for speculation, there are other factors which must be considered. There are times, when, owing to fundamental business conditions, the stocks of all of the above roads are a good purchase and any investor buying such stocks is sure to make a profit; but until these times come, it is not well for the investor to attempt to speculate in any one or two properties. During such times one should confine his purchases simply to a few of the highest grade railroad stocks, such as the Pennsylvania, Chicago and Northwestern, Illinois Central, New York Central & Hudson River, Louisville & Nashville, New York, New Haven & Hartford, Delaware & Hudson, Great Northern, Northern Pacific, Southern Pacific and a few others.

When selecting stocks, however, for permanent investment, to be put away in a tin box and forgotten, the investor should make the tests above suggested and should purchase only such stocks that pass these tests. These tests given above are in most cases sufficient for the purpose; but if it is desired to make a further study, it is well to work out additional figures comparing them with figures of other roads similarly located. For a suggestion as to four of these features, the following conclusions taken from the above mentioned report on the Atchison, Topeka & Santa Fé may be of interest:—

(1) There has been an increase of 12.1 per cent in "total capitalization" per mile owned since June 30, 1901, when said figure stood at \$52,808, compared with \$59,193 on June 30, 1911.

(2) There has been an increase of 23.2 per cent in "total net earnings," excluding taxes, per mile operated since June 30, 1901, when said figure amounted to \$2,887 compared with \$3,769 on June 30, 1911.

(3) The per cent of "total gross" spent on "maintenance" has changed from 24.7 per cent in 1901 to 29.8 per cent for the year ending June 30, 1911, during which latter year about \$1,552 per mile was spent on "maintenance of way and structures," and about \$1,612 per mile on "maintenance of equipment."

(4) The per cent of "total gross" consumed by "fixed charges" and "conducting transportation and general expenses" has changed from 52.3 per

cent in 1901 to 50.7 per cent for the year ending June 30, 1911.

The difference between this last figure and 100 per cent, namely 49.3 per cent, shows in percentage the balance of the gross earnings available for maintenance, improvements and dividends. This balance is one of the most important figures of the entire report. The larger the percentage of balance and the more steady and constant its growth—all else being equal—the more valuable is the stock.

A Detailed Comparison of Important Features of the Report is as Follows:

Year Ending June 30	Average mileage operated	Bonds outstanding per mile	Per cent of gross consumed by chgs. and cond. trans.	Per cent of gross available for chgs., maintenance and surplus	Preferred Stock outstanding Per mile	Per cent of gross available for maintenance and all divs.	Per cent earned on preferred stock	Common stock outstanding per mile	Per cent of gross available for maintenance and com. divs.	Per cent earned on common stock	Trainload in tons
1900-1	7,807	\$25,115	52.3	62.9	\$14,628	47.7	10.92	\$13,065	37.3	6.63	242
1906-7	9,273	30,645	49.0	63.7	12,312	51.0	18.54	11,103	45.0	15.01	365
1907-8	9,415	33,535	54.0	61.1	12,127	46.0	11.98	10,935	39.7	7.74	355
1908-9	9,795	31,773	50.5	64.7	11,657	49.5	17.88	12,410	43.5	12.10	366
1909-10	9,916	30,456	50.0	62.4	11,514	50.0	17.89	16,692	44.7	8.89	389
1910-11	10,350	31,797	50.7	62.2	11,031	49.3	18.72	16,273	43.7	9.30	395
1911-12	10,628	32,240	52.7	61.1	10,743	47.3	17.22	16,008	42.1	8.20	400
1912-13	10,750	29,688	50.0	62.5	10,621	50.0	19.40	17,752	45.2	8.62	425

CHAPTER XI.

ELECTRIC RAILWAY SECURITIES.

The Link Between the Investor and the Voter.

A BOOKLET on Electric Railway securities published recently by one of the largest banking houses in this country, reads in part as follows:—

“As the security of government and municipal bonds lies in the ability of the people to pay taxes and the extent to which they are burdened therewith, so the security of the public service corporation bonds lies not so much in the plants or real property possessed as in the degree to which the use of their facilities is imperative; things without which the people cannot get along; for the extent to which their use is absolutely necessary, is their support, a tax upon the people; a tax even more impossible to escape than those imposed by legislation, because the laws by which they are levied are natural instead of legislative.

“It is unnecessary to explain in detail the way in which public service corporations tax the people, their commerce and their industries. The flames from burning home and factory quenched by the streams from neighboring hydrants prove the worth of water bonds. Likewise, the throngs of clerks and workmen carried every morning from their homes to the office or shop and back again at night are proof of the security of street railway bonds. The fact that such a statement as this seems so

commonplace is proof of the necessity resting upon the people, industries and commerce to support these public utilities."

The principle exploited in the above statements is radically wrong, and is at the bottom of ninety per cent of all financial and political troubles affecting railway properties in our large cities today. The point made by this writer, that the actual cost or replacement value of the real property possessed is a secondary matter; and the strength of street railway securities lies in the power of the company to tax "the throngs of clerks and workmen carried every morning from their homes to the office and shop and back again at night," is an exploded fallacy. Fortunately for the citizen and unfortunately for the promoter, there has been progress in civic conditions as well as in means of transportation, methods of manufacture and other lines, and although the principle outlined in the above quotation could have been depended upon and utilized a dozen years ago, this is not the case today.

Today, unless street railway securities are reinforced by property, the actual replacement value of which exceeds the market value of the securities, they will not be recommended by conservative banking houses. There was once a time when a street railway company could increase its earnings so as to pay the interest on almost any capitalization by simply increasing the rate of fare (or decreasing the service) on its roads; for, as the above writer suggests, it is absolutely necessary for the people to use the street railway whatever the rate of fare or

the condition of the service. This very fact, however, has caused the courts to rule that this question of fares and service is a public question to be decided not by the company, but by the public through their official commissioners, and thus within the last few years in many cities "the goose that lays the golden eggs" has been killed.

The Franchise.

Although franchises should not be capitalized, yet they are absolutely necessary to the operation of all public service corporations. A *charter* of a street railway company differs little from the charter of a manufacturing or business corporation. The charter is obtained from the state, and is simply a permission to organize a company for carrying on a certain line of business without inflicting personal liability upon the owners. Although in some states the charters are for a limited number of years, yet they can almost always be renewed, and practically speaking, are perpetual. The fact, however, that a charter is perpetual is usually of no special interest to the investor. What the investor is interested in is the *franchise*, which is an entirely different matter. To obtain a charter for a company is usually a matter of form; but after the charter is obtained and the company is organized, to obtain a franchise for operating a street railway in any city is an entirely different matter.

The franchise is a license to lay tracks and

operate cars in the streets of a city, and said license is granted by the local government of said city. In fact, the franchise of a street railway is identically like the license of a liquor dealer. Three men could at any time organize a corporation to sell liquor in New York or any of our large cities having a license system; but the charter which is obtained from the state is not sufficient. After obtaining the charter, a license must then be obtained from the license commissioners of the city of New York. With such a license the corporation would be able to sell liquors in New York; but without said license, their charter would be absolutely valueless. Now, instead of calling this right to operate street cars a "license" like the right to sell liquors, to collect junk, or to operate taxicabs, it is termed a "franchise."

There are three classes of these franchises:—

(1) The so-called *perpetual* or nine hundred and ninety-nine year franchise.

(2) The *limited* franchise operating from twenty to fifty years.

(3) The *terminable* franchise which, in fact, is often perpetual but in theory can be revoked at any time.

Certain street railways in New York City serve as the best illustrations of the first mentioned franchise, and without doubt these franchises for the old surface lines operating in the lower part of Manhattan Island are extremely valuable. Based on the principle outlined in the quotation given in our first paragraph, they were at one time thought

so valuable that the stock of the Metropolitan Street Railway Company sold at \$182 per share and paid a dividend of 7%. In fact, a purchaser of this stock at such a price, stated at that time that there would be no limit to what the stock would eventually sell for. He said, "The stock of the Metropolitan Street Railway will go above \$250 and I believe ultimately to \$500 a share, because the company operates in the largest city of our country; it has a monopoly of the business, and owing to its long franchise, has the people of New York at its mercy."

Fortunately for the voter and unfortunately for the promoter the courts have ruled that a street railway company may have an exclusive franchise for a limited reasonable length of time—say twenty or thirty years—or a perpetual franchise which is not exclusive, but it cannot have both. Therefore, the city government of New York granted another franchise to the Interborough Company to operate a subway under the same streets in which the Metropolitan Street Railway operated. But this was not all. In addition the New York legislature said, "If your franchises are as valuable as you represent, then we will tax you for them." Consequently a tax was imposed on this company which, combined with the competition of the Interborough Railway, most seriously affected the earnings of the Metropolitan Street Railway Company. Within a term of ten years or so, the stock fell from \$182 a share to \$15 a share. *Therefore, it will be seen that although the so-called perpetual*

franchise is a very good thing to have, yet no street railway corporation can take undue advantage of it as no perpetual franchise is exclusive, and if it is of undue value, said value of the "unearned increment" can be very heavily taxed.

The second class of franchise known as the "limited franchise" is perhaps best illustrated in the case of the City of Chicago. Here, certain franchises were obtained by the late Chas. T. Yerkes for definite periods, and these franchises were probably exclusive until they expired. By continually obtaining new franchises for extensions, investors were fooled into believing that these new franchises prolonged the old franchise. Because a new franchise, however, was obtained for fifty years for a suburban line, this had no effect towards lengthening the franchise on the downtown district that was given—say forty years previous and had only ten years longer to run. Nevertheless, the value of these suburban lines very largely depended upon the entrance to the business section of the city, or, in other words, on these old franchises which were about to expire. Therefore when the first of these old franchises in the downtown district expired, the voters of Chicago had an advantage over Mr. Yerkes or rather the holders of the securities; for Mr. Yerkes had already sold out and gone to London looking for larger worlds to conquer.

Unlike the citizens of New York, the voters of Chicago were not obliged to resort to heavy taxation or to building subways, but had absolute con-

trol of the situation through their power to dictate who should have the new franchises on certain down-town lines and upon what terms. The importance of this power held by the voters of Chicago is best illustrated by the fact that the stock of the Chicago Union Traction Company, which sold for \$23 a share in 1902, declined to about 60 cents a share in 1908. Notwithstanding the fact that the city of Chicago was very fair in the final disposition of this problem and in the renewal of these franchises, yet it was necessary to reorganize its street railway properties, severely cutting down the capitalization, extracting millions of dollars of water from the stocks, changing fixed interest bearing junior lien bonds to income or adjustment bonds, and leaving intact only the underlying liens and the well seasoned bond issues.* In short, the

*The Chicago Union Traction Company operated 306 miles of the Street Railways of Chicago, all rights to operate 137 miles of which absolutely expired on or before July 1, 1907. Rights of operation over 70 miles were subject to termination at the will of the City of Chicago, and rights on 99 miles were to expire from time to time, beginning in the early part of 1908. The city granted the new franchise on the basis of a compensation to the city of a percentage of the Company's surplus earnings. The surplus earnings so divided, are net profits from operation after deducting a sum equal to 5 per cent on an agreed valuation of \$30,500,000, which was over \$5,000,000 in excess of the total of all of the Company's old bonds, and over \$1,000,000 in excess of the entire indebtedness, including unsecured indebtedness.

The new company authorized two issues of bonds. Of the First Mortgage issue, bonds may be issued from time to time to pay for a certain proportion of the cost of extension to the property. It gave new bonds of the Consolidated Mortgage issue in exchange for the old underlying bonds, representing the full face value of the latter in proportion to the relative importance to their liens upon the property. It also issued bonds of the same issue to retire the unsecured indebtedness, and reserved \$6,000,000 of the same issue as collateral security to an issue of notes which it sold to pay for improvements and other immediate corporate requirements.

The new franchise provides that the city may purchase the properties at any time at the above mentioned agreed valuation—\$30,500,000—plus whatever amount may be subsequently spent upon the properties for extensions, etc. The city thus places a

capitalization was reduced to a point which coincided with the actual physical replacement values of the properties. *It is almost fundamentally true that a street railway company in a reasonably sized city can be depended upon to pay a fair rate of interest on its replacement value, but the conservative investor will purchase no securities which are not fully protected by actual physical property of equal replacement value.*

The third form of franchise known as the so-called "good behavior franchise" is best illustrated in the case of the street railways of Massachusetts where franchises are granted with no reference to time in any way. The railways claim that, as no time is stated, they are practically perpetual; while the public claims that the fact of no time being stated makes them revokable at any time. Practically, the railways' point of view is correct although theoretically there is little doubt but the franchise of any street railway company operating in any of the large Massachusetts cities could be revoked at any time if a corporation took undue advantage of the people of said city. It might take

minimum valuation upon the properties which it must pay, which includes the value represented by the old bonds and by the new investment. In the event that the city does not purchase the property, it agrees not to grant any franchise to any other company, unless that company will purchase the property at the above mentioned valuation. The old stocks were exchanged for the new company's stock in proportion to certain agreed relative values and certain junior bonds were adjusted in the same way.

Very little disposition on the part of the people is noticeable to take away or destroy real property values, although there will be attempts to squeeze out some of the water. Therefore, in reorganizations soon to take place, it will be the stockholders who will suffer in the loss of paper profits rather than the investors in the bonds which are honestly sold and used to build or improve the property.

two or more years to do it and the approval of the state railway commissioners would doubtless be necessary; but there is no doubt but the people could force the company to come to terms.

Although incomprehensible to many people outside of New England, this Massachusetts system is working out very successfully for all interests, as both parties have been on their good behavior. To begin with, the street railway companies have kept their capitalization within the replacement values of the properties, so that they can liquidate at any time without a loss to the bondholders. This results in giving a very low rate of fare in large cities like Boston where it is said one is able to ride further for five cents than in any other city in the world. On the other hand, the fact of having this power to revoke the franchise at any time has made people more liberal with the companies than they otherwise might be. In many instances where a fare of five cents has not been sufficient the people have allowed an increase to six cents; which probably would not have been permitted under a term or limited franchise, so common in our western states.

Of course, there is one advantage possessed by Massachusetts and other eastern street railways, which is not possessed by many in the west; namely, that the securities of such corporations are owned largely in the locality in which the company is operating. For instance, the majority of the stock of the street railway operating in Boston is owned in Boston, and human nature is such that it is much more difficult to obtain legislation in Bos-

ton adverse to the street railways than it would be to obtain legislation against street railways owned by men living without the state. *Therefore, the residence of the ownership is an important factor to consider when studying street railway securities.*

Other Factors to Consider.

When considering street railway securities, all the various factors to study may be summarized under the two following headings:

(1) Franchise and property value.

(2) Earnings and management.

Many writers make four or more factors, but these two are sufficient because of the relation which the franchise bears to the property value and the earnings to the management and vice versa. Although the franchise should not be capitalized, yet we have seen that it is a very vital matter, and in fact, an absolute necessity for the operation of a street railway company. A street railway company, the securities of which are paying dividends today due to the value of their franchise rather than to the value of the property, is like a battleship with the highest powered guns and great quantities of ammunition but without any armor plate. So long as it alone does the firing, its strength is invincible, but when the enemy fires back, its own huge guns only tend to make it sink more swiftly. Therefore, franchise and replacement value may be placed together, and investors in street railway securities should first ascertain if the franchise is satisfactory and the replacement value is sufficient to cover the

securities which are being considered, and at any rate, sufficient to cover all fixed interest-bearing securities.

Much attention has not been given to earnings, because the earnings of street railway properties located in cities are almost universally sure of equalling the interest on their replacement value. In the cases of New York, Chicago, Cleveland and other cities where the street railway companies have had difficulties, there has been no trouble with the earnings on a fair capitalization. The record of earnings of our country's street railway properties is extremely favorable. Of course, the case of interurban lines built in competition with steam railroads is another matter. In such a case, the electric railway has not a natural monopoly as has the city lines, it being continually subject to competition not only of the steam railroads, but also of other electric lines which may at any time be constructed. For this reason, investors purchasing bonds of interurban street railways must use much more care than when purchasing bonds of street railways in cities. Not only must the franchise and replacement value be carefully considered, but the earnings and management should likewise be most carefully studied, and conservative investors do not buy bonds of interurban roads on estimated earnings but wait until the company has commenced operation, closed its "construction account" and is earning about double its interest charges, showing what it actually can do when the railroad, which it parallels, has reduced its fares and real competition exists.

As to management, this is an item which is too often overlooked by the average investor. Many who are very scrupulous regarding their own personal affairs will buy securities of corporations which they know to be operated by men of questionable principles, and then be surprised because the securities decline in value. When one buys stocks in a company, he practically enters into partnership with the other stockholders, and he therefore should take great care to purchase securities only of companies which are operated by high grade, honest men and which securities are offered by well-known, established dealers. It is as reasonable to expect to climb around a boiler without getting soot on one's clothes, as to buy securities in companies known to be operated by disreputable men and avoid losses.

On the other hand, such *bonds of street railway companies operating in the large cities with normal franchises and management, where the bonded debt is less than the replacement value should be absolutely safe investments*, as the earnings are almost certain to be sufficient to pay the interest on all legitimate indebtedness. The first mortgage bonds of many interurban lines should be absolutely safe, although in such cases, in addition to the above mentioned factors, the record of earnings should be carefully studied; and the investor should confine himself either to underlying liens of such properties or else to issues where the net earnings are doubly sufficient to pay the interest thereon.

Why Electric Railway Securities are Easy to Sell.

There are very few classes of securities which have the extremely good record that our electric railway securities have. The record of the nation's street railways is infinitely more enviable than that of its steam railroads. Although the people can curtail their requirements which form the basis of the business of our steam railroads, they can only to a small extent curtail the basis of the business of our street railways. For this reason, the earnings of a street railway in times of panic and depression fall off very slightly if any, compared with the great falling off in the earnings of the steam railroads. Moreover, the population of our cities is rapidly increasing, while a normal rate adds greatly to the earnings of the street railways. It is claimed that the earnings of a well managed street railway company increase as the square of the population. This not only has the effect of causing an increase in earnings, but also compels companies to expand and issue additional securities, which in the case of the present outstanding closed mortgages must eventually be very beneficial. If a company can now earn a good surplus above its interest charges, there should be no question about its ability in years to come, when it will have made important additions and extensions to its property. *Therefore, holders of bonds now outstanding the mortgages of which are closed, will in many instances have the satisfaction of soon seeing their bonds*

become an underlying lien of a large system, followed by one or more refunding issues.

The strongest feature, however, connected with street railway securities is the fact suggested above "that business depressions seem to have very little adverse effect upon the earnings," and in fact, such securities hold a most enviable record in this regard. This can perhaps be best illustrated by the following table prepared by Gardner F. Wells which shows three important factors:

(1) The constant increase in gross earnings of street railway securities.

(2) The increase in street railway earnings even during periods of great business depression.

(3) The steadiness of street railway earnings compared with steam railroad earnings.

Although the same laws would doubtless be found to apply to the street railways of any city, the street railways of Massachusetts are used as an illustration on account of the record of Massachusetts roads being much more complete. The table is as follows:

Earnings From Operation of Massachusetts
Steam and Street Railway Companies
Since 1865.

Year	Steam R. R. Earnings	St. Ry. Earnings
1865	\$18,974,915	\$1,562,171
1866	21,205,528	1,707,447
1867	21,561,061	1,794,950
1868	22,761,647	1,861,311
1869	24,539,722	2,064,690

Year	Steam R. R. Earnings	St. Ry. Earnings
1870	25,003,953	2,081,751
1871	26,615,459	2,318,001
1872	29,754,241	2,522,589
1873	33,310,479	2,563,146
1874	32,681,956	2,894,024
1875	30,786,295	2,960,491
1876	29,855,800	2,975,091
1877	28,931,988	2,987,406
1878	28,003,236	3,008,911
1879	29,152,829	3,179,702
1880	33,661,823	3,711,378
1881	35,936,303	4,033,244
1882	39,094,369	4,494,957
1883	41,635,800	4,583,042
1884	41,456,977	4,910,102
1885	41,742,341	5,108,715
1886	46,171,689	5,786,756
1887	50,068,658	6,381,404
1888	53,720,035	6,824,317
1889	55,856,901	7,523,575
1890	59,230,761	8,348,285
1891	61,483,104	8,861,841
1892	64,143,287	9,798,060
1893	70,935,930	10,832,174
1894	64,128,423	11,119,846
1895	68,154,906	13,184,342
1896	74,886,480	14,844,262
1897	71,934,773	15,815,267
1898	73,599,534	16,915,405
1899	75,430,062	18,151,550

Year	Steam R. R. Earnings	St. Ry. Earnings
1900	82,191,293	19,999,640
1901	82,385,586	21,766,340
1902	86,920,565	23,486,474
1903	93,325,932	25,540,811
1904	95,280,348	26,207,247
1905	98,899,235	27,041,291
1906	105,954,452	29,563,892
1907	111,433,939	30,557,862
1908	106,309,486	30,780,962
1909	108,105,772	31,956,007
1910	120,140,993	*24,032,236
1911	123,959,490	35,036,997
1912	129,074,311	36,080,237

*For nine months ending June 30, 1910.

Note:—Steam Railroad figures are for years ending June 30, Street Railway figures are for years ending Sept. 30.

Of course, when comparing street railway securities with industrial securities, the contrast is even more marked, for while the gross earnings of the principal electric railway *increased* about five per cent in 1908 over 1907, the gross earnings of thirteen of the nation's principal industrial concerns *decreased* about thirty-five per cent, and the gross earnings of the steam railroads decreased in 1908 over 1907 about eight per cent, or from \$2,602,757,503 in 1907 to \$2,407,019,810 in 1908.

It will be seen, therefore, that the honestly issued bonds of street railway companies which are being operated today by men who stand for what is right and best in the community should be safe and

attractive investments, second only to the highest grade municipal and underlying steam railroad bonds. The best combination of yield and security can today be found in certain well-seasoned street railway bonds which are now being offered by established bond dealers of irreproachable integrity. On the other hand, unless one is fully acquainted with all conditions affecting a property, it is well to purchase only the mortgage bonds of city roads, and such bonds as are protected by real property of a replacement value exceeding the bonded debt, preferring underlying liens when they are obtainable.

CHAPTER XII.

LIGHTING SECURITIES.

The Struggle Between the Gas Companies and the Electric Companies.

FEW people, excepting those in the innermost councils of certain gas and electric lighting companies, realize the great revolutionary possibilities in the so-called "fireless cooker," different makes of which are being advertised in the leading magazines today. Although little has been written or heard of the underlying principles involved, probably few inventions since the electric motor has the possibilities of so radically changing household methods as has the invention of the fireless cooker, and yet this is no new invention. A sea captain brought from China to his home in Gloucester, Massachusetts, a hundred or more years ago, a tea basket which operated on the same identical principle as our modern fireless cooker; namely, that of obtaining a certain degree of heat and holding and concentrating said heat for use exclusively in cooking a certain food.

One of the greatest wastes today exists in connection with the application of heat. Think of the great heat waste connected with the operation of several hundred thousand locomotives, as they are racing back and forth across our continent! These locomotives are actually endeavoring to heat all outdoors, and at the same time save some of the heat to generate power. Think of the great amount of

heat wasted in our nation's blast furnaces simply for the purpose of melting certain ores. Think of the intense heat wasted in the boiler rooms of steamships, office buildings and factories. Not only is this heat wasted, but money and power is expended to remove this heat so as to make such places livable for the engineers and firemen compelled to work there. All of this is as nothing compared with the great waste of heat in the millions of kitchens throughout the world. If our mothers and sisters could concentrate all of the heat which they are producing in their stoves directly on the article which is being cooked, think of the saving of fuel, energy and health.

"Now what has this to do with lighting securities," the reader asks, and briefly the answer is as follows: *The ultimate value of lighting securities, whether the lighting is by gas or electricity, rests not in the use of gas or electricity for lighting purposes, but rather in its use for heating and cooking.* The people today have all the light necessary, and although the demand for light will increase to a certain extent with the population, yet it does not need to increase proportionately with the population, as two or three people in a room require no more light than one person; while a family of twelve in the poorer quarter of a city will use only a small fraction of the light used by a wealthy family of three in its city mansion. Therefore, the future of gas and electric securities depends upon the use of gas and electricity for cooking and heating purposes rather than upon their original use which was for lighting purposes.

The Great Handicap of Lighting Securities.

Up to the present time, gas companies and electric companies have been greatly handicapped in the sale of their product by the expenses of manufacture. Although seldom realized, there is little or no expense connected with the "manufacture" of coal, the principal item of expense being the extraction from the mine and the transportation. The process of hauling it through the streets from coal yard to the house and carrying the same into the cellar often costs more per ton than the coal itself before removed from the mine. All gas companies and such electric companies as do not obtain their power from water power are obliged to purchase this coal, have it transmitted to their plant, and burn the same *even before obtaining the gas or electricity, which they in turn will sell*. Consequently, it will be seen that for purposes other than lighting, gas companies and electric companies are greatly handicapped, and no corporation can buy coal and use it for the generation of gas and electricity, and then sell and distribute said product for a price which will enable a housewife to use it for her cooking as cheaply as if she purchased and used said coal herself.

As "necessity is the mother of invention," the gas companies, when forced out of the cream of the lighting business by the invasion of the electric lighting companies, succeeded in cheapening the cost of producing gas so that it could be used for cooking purposes. This use has greatly increased, so that today, instead of the greatest consumption

of gas being on Christmas Eve, as was the case twenty-five years ago, it is now on July Fourth. In fact, if the gas companies had not been able to reduce the cost and increase the efficiency of that product so as to make it practical for cooking purposes, there would have been reorganizations of a large percentage of our nation's gas companies since the invasion of the electric light. Instead, as the gas companies have been able to adapt their product to cooking uses, their output has continually increased and gas securities have a most enviable record for stability and strength. In fact, it is claimed that no other class of bonds show such a small percentage of defalcations as gas securities, and the following, taken from a circular of a firm which makes a specialty of selling gas bonds, is doubtless true:

"Gas bonds have a first-class record for safety. A gas bond usually is secured by a mortgage on all the property, rights and franchises of the company issuing it. The condition and value of the property is passed upon by a competent gas and mechanical engineer before the bonds are issued. The bonds are issued only with the approval of a trust company as trustee, after the trust company's attorneys have decided that the bond may be issued in accordance with the terms of the mortgage and trust deed. A gas company operates under the franchise or license of a city, and usually only one company serves each community. Gas is a "necessity," and the residents of the community use gas for cooking and lighting, with practically the same

certainty that they pay taxes, or use the utilities which are furnished by the municipality itself. *The business is operated upon a broad foundation, relying upon a small profit from many customers, instead of a large profit from a few. Experience has proven that the use of gas is not noticeably affected in times of panic or general business depression.* The decisions of the highest courts of the land, including the United States Supreme Court, have protected the rights and favored the interests of bondholders. All these facts add safety and soundness and stability to gas bonds as investments."

At present time, most families of average means use electricity for lighting and gas for cooking purposes either all or a part of the year, and as long as conditions remain in statu quo, the earnings of both gas and electric securities should gradually increase in a growing community where the companies are properly managed.

New Inventions.

If, however, any method should be discovered whereby either gas or electricity could be delivered to the housekeeper at very much cheaper rates, or *whereby the housekeeper could concentrate all her heat, wasting none*, then there is likely to be a revolution in lighting securities. As to whether the gas companies or the electric lighting companies would reap the greatest harvest from such an invention, it is impossible now to anticipate, but certain new developments indicate that the electric

lighting companies are almost sure to receive a distinct benefit.

As readers know, the fireless cooker is today used most exclusively by those who have gas stoves. The old method of boiling a leg of lamb necessitated the placing of the meat in a kettle on top of the stove and keeping a good fire under it for two or three hours. If wood were used, several baskets would be consumed; if coal were used, nearly a hod would be consumed; while to use a gas stove for such a purpose is now a distinct and expensive luxury. Where intense heat is required quickly, such as for broiling steaks, cooking muffins, etc. a gas stove has a distinct advantage and is doubtless cheaper than a coal or wood fire; but for cooking an ordinary dinner which requires about two hours or more, a gas stove is far from economical.

The fireless cooker, however, enables the housewife to heat a metal plate, which performance takes about twenty minutes, place this metal plate in a compartment of the cooker, put over it the receptacle containing the leg of lamb and a little water, close it up and in two or three hours the meat is perfectly cooked. It thus will be seen that the fireless cooker has already made the use of gas practical and cheap for general cooking purposes, where heretofore it has been a luxury; for in above example, instead of using gas for two hours to cook a leg of lamb, it is now necessary to use it only twenty minutes. *Therefore, at the present time, gas companies have a distinct advantage over electric light companies, and their earnings are rapid-*

ly increasing and gas securities of all kinds stand comparatively high.

Certain of our large electrical companies, however, are strenuously working to discover an electric fireless cooker, whereby the metal plate may be heated by electricity directly in the cooker and thus eliminate the waste of heat required in heating said metal plate on the gas stove. If it is accomplished and the gas companies do not discover some offsetting invention, the electric fireless cooker should cause a great boom in most electric securities, and may be a severe blow to some gas companies.

Factors to Consider When Selecting Lighting Securities.

This condition of affairs has been explained in detail because this is the great fundamental factor which our nation's large electric and gas interests are so carefully considering today; and because this subject is of most vital interest to the purchasers of stock in either gas companies or electric companies. "Stock" is emphasized because this is not a question which the investor who buys only seasoned gas or electric bonds need bother his head about as there are much more important factors for him to consider. As in the case of electric railway securities and the securities of other public service corporations, these other factors to be studied in the selection of lighting securities may be grouped under the two following headings:

- (1) Franchises and replacement values.
- (2) Earnings and management.

As we treated so fully the subject of franchises and replacement values in our discussion of street railway securities, it is not necessary to repeat the same here. However, it should be remembered that the same fundamental principles apply to the franchises of lighting companies as to street railway companies. The only reason that we do not today hear so much about lighting franchises as we do about street railway franchises is that, *first*, lighting franchises have not as yet begun to expire, and *secondly*, because the public is not brought into such direct touch with the employees of a lighting company as with the employees of a street railway company. Moreover, the manager of a lighting company knows by watching his volt meter and ampere meter, the quality of light which every patron in the city is receiving, while the manager of a street railway company has little direct control over the behavior of its conductors and motormen. For this reason, it is a very much simpler matter for the directors of a lighting company to keep the public happy than for the directors of a street railway company, which by the way, is a very important factor, and is probably the factor which has caused many to prefer lighting securities to street railway securities.

However, the securities of a lighting company should always be kept within the replacement value, and investors or the banking house upon which the investor depends, should take great care to see that the franchises are properly written and do not expire until after the bond issues mature.

In many ways, this is more important in lighting companies than in street railway companies, for lighting companies are much more subject to competition. This is especially true in the case of an electric company which has not its wires under ground, as it is very easy in such cases for other interests to erect a competitive "overhead" plant. The fact that gas pipes are located under ground is one of the reasons why gas companies are so little subject to competition and gas securities have been so popular. In the same way, the placing of electric wires under ground by the more conservative electric companies is greatly adding to the strength and stability of electric lighting securities.

Regarding the franchises of different companies, these vary with different states. Usually they are the same as in street railways, but in the State of California it is different. The California law gives the company the right to do business in any of the municipalities within the territory served, for a period extending to the end of the company's corporate existence, usually fifty years. By the terms of this law, the company is not obliged to obtain permission from the municipalities themselves, as that right is given in its charter. The company is, however, obliged to comply with such police restrictions as may be necessary regarding the tearing up of the various streets in the municipalities in which the company operates. The privilege given by the State is neither perpetual nor exclusive; it simply extends during the life of the corporation. When the corporation's charter

expires, it is renewed by *special* act of the State Legislature, as was the Hibernia National Bank's charter, which recently expired. A new charter was granted for a period of fifty years. There seems to have been no objection to the granting of a new charter to a company operating under this law; but this is no reason why there some day may not be.

The same statements as to earnings and management made in reference to street railway securities also apply to lighting securities, especially in the case of cities where both the gas and electric lighting interests are identical. It is for these reasons that many conservative investors, when purchasing stocks of lighting companies confine their purchases to stocks of such companies as control both the gas and electric lighting of the localities served. Of course, when purchasing bonds, this is not so important, as all honestly issued bonds of well managed lighting companies, whether gas or electric, in well established cities, should be absolutely safe. In fact, if the reader has any doubts as to his ability to select such safe bonds, it is only necessary for him to follow the rule which has been mentioned heretofore,—namely, to select an underlying lien. Practically speaking, all first mortgage lighting bonds of established companies in growing communities should be perfectly safe for permanent investment purposes, the amount outstanding usually being less than the replacement value of the property.

Advantages of Lighting Securities.

Lighting securities have many advantages, three of which we will consider briefly. *First*, there is the steadiness of earnings, and the fact that the earnings are not adversely affected by business depression. Although all electric securities have not been outstanding many years, gas securities have passed through the three great depressions of the 70's, 80's and the 90's. Instead of the earnings of these gas companies declining during such periods as did the earnings of all railroad and industrial corporations, they have steadily increased, and electric securities would have had the same experience. In fact, the earnings of all lighting companies are even less dependent on business conditions than are the earnings of street railway companies.

Second, we have the central control mentioned above whereby the manager, sitting in his office knows exactly what service every customer in the city is receiving, owing to the elimination of the personal labor factor. In connection with this advantage there is another, namely, that lighting companies are not affected by strikes, the labor factor being a very unimportant factor. In the case of all steam railroads and street railways, the labor factor is very important, not only owing to the effect on the public but also owing to the effect on the earnings, *as men are continually asking for an increase in pay, and in many instances, the labor costs increase at a greater rate than the earnings.* In the case of lighting companies, the labor

item is very small, and not only have the companies nothing to fear from strikes, but they are fully able to meet all legitimate demands for increased salaries. This is a very important factor and one which is liable to become increasingly so as years go on.

The *third* distinct advantage of lighting, and in fact, all public utility securities, lies in the feature that such a company cannot go bankrupt and retire from business. An industrial or manufacturing corporation can at any time close up and the business may become almost a total loss. This is one of the reasons why industrial bonds are usually not in public favor. The value of industrial securities is very dependent upon the energy and constant vigilance of the management, which is continually subject to the keenest competition. In the case of lighting and other public utility propositions, the courts have ruled that the companies cannot arbitrarily shut down and go out of business even if their management for some ulterior motive, so desires. The properties must be operated by some one and a total loss is almost impossible in the case of public utilities.

Of course, when purchasing lighting securities on distant properties, great dependence must be placed upon the integrity and good will of the bond house purchasing the same, as it is impossible for the investor to inspect the franchises, legal proceedings, location of plant, local environments, management and the other factors. The following sugges-

tions, however, prepared by a dealer in public utility securities are of interest.

“In selecting bonds of public utility companies, care should be taken to buy issues where the total amount of the bond issue is limited and outstanding (commonly known as a closed mortgage) and is not excessive. The following figures or constants may be safely applied in determining this point: For gas companies alone, the bonded debt should not be over \$15 per capita; electric lighting and power companies not over \$20 per capita; water companies, not over \$25; gas and electric combined, not over \$35; gas, electric and water combined, not over \$60.”

CHAPTER XIII.

TELEPHONE SECURITIES.

AS we have discussed the securities of street railways and lighting companies in preceding chapters and are now about to consider telephone securities, it is rather interesting to note approximately the extent to which each of these public utilities is a tax upon the people.

Annual Charges Per Capita in the United States.

Steam Railroads	\$20.00
Street Railways	8.50
Gas	3.50
Electric Light	2.60
Telephone	1.75

This does not necessarily mean that every person spends \$20.00 a year on railroad fares and only \$1.75 on telephoning; but it does mean that for every \$1.75 spent on telephoning in this country, \$20.00 is spent on railroad fares or freight. As in economizing, it is natural and easiest to curtail first those disbursements which are heaviest, economizing last on those which are smallest, it is found that the earnings of telephone companies are less affected during periods of depression than the earnings of any other class of corporations. It is greatly due to the credit of Mr. Vail, president of the American Telephone & Telegraph Company, that most careful studies have been made of this

and other features in order to determine the effect which a business depression has upon the earnings of telephone companies. These studies not only show that there has heretofore been no decline in telephone earnings during a period of depression, which is also true in the case of the earnings of certain other public utilities, but there has been a continuous increase in earnings throughout such periods. By tables prepared by the Statistical Department of the American Telephone & Telegraph Company, its president has been able to demonstrate conclusively that telephone earnings are the most stable of any class of corporations, and therefore, the securities (especially the bonds of certain telephone companies) should be attractive to the most conservative investor.

Telephone Competition.

As has been often emphasized, there is no class of securities which has all the advantages or all the disadvantages, and telephone securities are no exception to the rule. Although the record of telephone earnings shows a continual and marked increase, yet telephone companies have been subjected to fierce competition owing to the fact that competitive plants can be installed so cheaply, especially in the smaller cities where wires can be placed largely overhead. It is true that this competition is theoretically against public welfare. An ideal telephone system should be universal, and all the various exchanges should be so bound together by toll lines that there is ample provision

for intercommunication between all communities. Any telephone system failing to meet these requirements falls short of satisfying the public. Nevertheless, notwithstanding this fundamental principle, a host of independent companies has sprung up all over the country so that there was a time a few years ago when the total number of "Independent" telephones exceeded the total number of Bell telephones. This has resulted in fierce competition both as to rates and service.

A city where the Bell telephone has been the sole company, for example, charges nearly fifty dollars a year for a house telephone private line. An independent company is organized which starts out with a rate of about twenty dollars a year for the same service, or less than one-half that of the Bell company. Of course, the Bell company may have been charging too much, but the independent company doubtless is charging too little to provide for proper maintenance, depreciation and overhead charges. The Bell companies have wisely very seldom come down to as low rates as the Independent companies; but in instances like the above mentioned, the Bell sometimes cuts from fifty dollars to about thirty dollars. Of course, in the case of a family having only one telephone, this is an apparent saving; but as a large number of families and especially all business houses, under such circumstances, are obliged to install both telephones, the total cost is in excess of the cost under the one company, the subscribers being also subjected to the double nuisance of always finding that the party desired has "the other phone."

The local Independent companies have been greatly aided by the fact that they have been owned and operated by local interests and thus have been referred to as the "home company," while the Bell companies have been represented as being operated by "Wall Street" and "some hard-hearted eastern capitalists." Under these conditions the independent systems have rapidly grown so that, although twenty years ago the Bell Company did nearly ninety per cent of the business and moreover has increased its clientele with most rapid strides every year since, yet the Independents have grown very rapidly. The Bell system proper comprises about 30 companies, and operates about one-half of the total number of stations, although over 8,000 friendly companies or lines operate about 1,500,000 stations. The remaining telephones are operated by about 17,000 smaller companies with an average of about 75 telephones per company. The companies are made up largely of small rural associations along co-operative lines, and in many cases do not in any way compete with the Bell system; but rather tend to become feeders. On the other hand, there are over 200 companies which have on the average about 5,000 stations to each company, and these companies are a source of great trial and annoyance to the so-called "Bell interests." In fact, it is very interesting to see what the American Telephone & Telcgraph Company in an official bulletin says relative to these companies.

"The scattered localities, lack of comprehensive toll lines, diversity of methods, and variety of apparatus make it impossible to form these companies into a system in the sense that the term is applied to the Bell System, although there is much talk and some little attempt at doing this to the contrary. These companies may be formed into three groups:—

"Group I. Companies of less than \$500,000 capital, that may be termed legitimate companies, started for the most part to fill a real or fancied want by local interests, conservatively organized and operated. Many of them are not active competitors of the Bell; most of them were started with the belief that low rates are profitable. Some 10 per cent have failed in the last few years, or as soon as the plant wore out, while most of the others acknowledge that rates must be raised before any profit can be made. This group numbers about 150 companies, with total outstanding capital obligations of \$25,000,000, and some 250,000 stations, or about \$100 capital per station. Not having any considerable amount of toll lines, this capitalization is high, but reasonable.

"Group II. Companies with a capital of \$500,000 to \$1,000,000. There are 35 of these companies, with a total of \$20,000,000 capital outstanding, claiming 108,000 telephones capitalized at \$185 per station. Considering that this covers but small proportion of toll lines, it is absurdly large.

"Group III. Companies with \$1,000,000 capi-

tal. There are 38 of these companies, with a total outstanding capital of \$185,000,000, claiming 764,000 stations, or a capitalization of \$242 per station. The remarks about over-capitalization above will apply with greater force here.

"Groups II and III comprise what may be termed 'promoted companies.' That is, companies formed by syndicates, independent of or connected with manufacturing companies, that finance them through construction companies as a rule, and distribute the stock, when possible, to local or outside people. They were not formed to fill any definite want, and were built under franchises promising low rates and large profits,—seemingly a ridiculous proposition, but at the same time sufficiently attractive to have enabled the promoters to distribute something like \$200,000,000 (nominal) of securities.

"The history of these groups is similar,—apparent prosperity so long as the plant was new or securities were readily absorbed, then trying or calamitous times, application for higher rates, reorganizations, etc. The percentage of failures on these groups has been from 15 to 20 per cent in the last few years. The probability is that the stations claimed are not what might be called legitimate subscribers. One of the largest companies lately still in process of organization stated to its bondholders that out of over 11,000 subscribers 3,800 refused to pay and ordered the telephones out, 3,000 could not afford to have telephones and had not paid, and 4,200 were paying \$30 per year, or

less than half the published rates. Few of such companies are paying dividends, and fewer of them show anything earned after taking care of the plant, while most of them are paying fixed charges out of capital obligations.

"As before remarked, over-capitalization, insufficient provision for deterioration of property in addition to current repairs, low rates, and the lack of intercommunication are slowly, but surely, bringing these companies to grief. The latter alone would do so, independent of any other cause. Intercommunication is the life of our social and business organization, and a universal system is the only one over which comprehensive intercommunication can be had.

"The public is thoroughly imbued with the idea that one system is the best system, but some argue that competition is needed to keep the business within bounds. In these days of official regulation, however, it is questionable whether there is need of competition. Regulation and competition cannot work together. Regulation would demand equal service and equal conditions of each competitor. There is no such competition in the telephone business, and to establish such competition is probably impossible. But independent of that, is there such a thing as competition in the telephone business? To build a telephone exchange in the centre of an existing system and give limited service over a restricted area is not competition, at least not the sort of competition that is talked about by its advocates."

Of course, this is the Bell side of the story, and it is given here only because most readers throughout the great West and Middle West hear only the independent's side. It is, of course, much more popular to talk in favor of the Independents as all who are filled with good, red, American blood like to be "independent" and fight. The above statements are doubtless prejudiced and exaggerated, nevertheless, before investing one's hard earned savings, it is well to hear both sides of a story; and, however much the above may be exaggerated, the investor might well "count ten" before investing in new small "home" or independent telephone companies.

Selection of Telephone Securities.

As in the selection of street railway and lighting securities, the question of franchise and replacement value, earnings and management must be carefully considered. We do not hear much about the franchise in the case of telephone companies, as it is not yet time for the important franchises to expire. Moreover, certain telephone franchises are more after the style of steam railroad franchises, and are not so dependent upon local authorities as are the street railway and lighting companies. On the other hand, the time is coming when terms and expirations of telephone franchises may cause a great deal of discussion. Therefore, investors should confine their investments in telephone securities to such as where the franchises have been most

carefully examined and approved, and be prepared for government ownership any time.

The same remarks apply to the replacement value, but to a much greater extent. In fact, it is doubly necessary that the replacement value of a telephone plant should be very much more than the bonded indebtedness owing to the great depreciation involved in telephone plants. Therefore, conservative investors select telephone bonds of companies where the bonded debt is only about half the cost of the property.

When discussing earnings and management, this brings one back again to the subject of competition mentioned above. Given an honest management in a fair sized community, there is no reason why a telephone company cannot pay a reasonable return on the amount invested, provided it has the field to itself; but when one-half of the business must be turned over to another company, then it is very uncertain whether both companies can long continue to be successful. In every community served by two companies one of these companies assumes the lead. Sometimes it is the Independents and sometimes it is the Bell, but one is almost always forging ahead more rapidly than the other.

Those bankers who advise the purchase of only *Bell* securities or those who advise the purchase of only *Independent* securities, are unwise, as much depends upon the locality. In the city of St. Louis, the bonds of the independent or local company stand very high and are considered by many

as safer investments than the bonds of the Bell telephone company operating in that territory; but throughout New York State and Pennsylvania, the Bell securities stand as a rule, much higher than the securities of the independent companies.

It does not seem fair to assume that the Bell interest will not permit any of its companies to default on their obligations. Although the old Erie Telephone & Telegraph Company was not a Bell company in the full sense of the word, nevertheless the Bell interests owned a large proportion of the stock, and the securities of the Erie Telegraph & Telephone were purchased by New England investors largely on the theory that it was a Bell company. Therefore, it was quite a shock to these investors to have this stock decline from \$122 per share to \$15 per share in about two years' time. In fact, had it not been for the heroic efforts of a prominent bond dealer of Chicago, who represented the bondholders in their struggle to force the Bell interests to terms, even the bondholders would have been obliged to assume a distinct loss.

In short, telephone securities have so many distinct advantages, that were it not for this continual warfare between the Bell companies and the Independents, telephone securities might today be the very choicest form of investment. *As long as this competition exists, however, great care should be exercised in their selection, and the conservative investor will confine his purchases to securities of the largest and strongest companies.* In addition to the factors mentioned in connection with other

public service corporations, there should be an examination into the physical and political side as well as the financial.

Physical Property.

One should make a careful examination into the extent and condition of the physical property in order to ascertain whether the bonded debt is secured by property having a real market value in excess of the face amount of bonds issued. The extent and valuation of the company's real estate is the first point to be determined. If the appraised value of the land upon which buildings have been erected is alone greater than the amount of bonds outstanding, it is useless to investigate further, for the bonds, in such a case, would be practically a real estate mortgage. Seldom, however, is this the case; and after careful appraisal of the real estate, it is then necessary that a careful valuation be made of the physical property, such as copper wires, conduits and equipment.

The average investor usually finds it an impossibility to make such an examination himself, and it is likely that he would not possess sufficient technical knowledge to render his investigation of much value. For an accurate estimate of the value of a telephone company's physical property, it is necessary to depend upon an established bond house which will obtain such information by the employment of trained engineers. Owing to the length of time that statistics have been available for railroad and other public utility companies,

they can be properly judged by the careful investor; but satisfactory comparative figures relative to telephone companies are not available.

Especially should investors refuse to consider the cost of property and equipment as shown by the companies' books, for the *actual replacement value* is the only safe figure to consider. Of course, many companies having expensive conduits have been so liberally maintained, that the replacement value of the property is greater than the book value, but in most instances, this is not the case owing to the rapid deterioration of all over-head construction work. If the examination shows that the property could not be duplicated for an amount one-half or two-thirds in excess of the bond issue, this is a very strong point in favor of the bonds.

In many cases, however, it will be found that the bond issue is in excess of the value of the real estate and the replacement value of the physical property, the franchise having been capitalized. To determine the real value of the franchise is a very difficult matter, and involves many complicated, legal and political questions. As heretofore suggested, every franchise has its distinct value, and there are many franchises which are extremely valuable; but the conservative investor should not count on this value when considering the liquidation value of a property. A franchise is of value only because it enables a corporation to make money, and if a corporation's earnings under a given franchise are not sufficient to pay the interest on its bonds, there is little real value to the franchise.

Telephone Company Earnings.

If the company whose bonds are being considered passes these tests satisfactorily, that is, if its replacement value is sufficiently in excess of the amount of bonds outstanding, and the franchises are satisfactory, an examination of the company's financial condition and earnings should then be made. First, the gross earnings should be examined for a number of years back to ascertain whether the growth and rate of increase is satisfactory, considering the population served, and whether this increase compares favorably with that of other companies operating in similar territory. The position in which the company stands for obtaining new business should also be noted, and especially its position for holding its present business, should it be subjected to a great degree of competition.

The next item to consider is the net earnings, and this involves a study of the operating expenses. In this connection, the relations of the company to the public are of great importance, and it should be ascertained whether the directors of the company follow the policy of conciliating or ignoring public sentiment. The payments of a telephone company should be analyzed to determine whether sufficient capital has been spent and is to be expended for renewals, extensions and other improvements sufficient to keep the property in a high state of efficiency. This is a question which has caused much discussion in telephone circles; but certainly unless

proper allowance is made for depreciation, it is only a question of time before the strongest company will become bankrupt.

Deterioration of plant and equipment, which goes on constantly, can be offset only in two ways. One is out of earnings, and the other is out of the security holders; that is, by a decline in the market value of the securities, and in this connection, a writer states as follows: "It is difficult to measure depreciation accurately, but a safe rule to follow is to write off ten per cent of gross earnings each month for depreciation. In this way, the charge for depreciation will be proportionate to the business, which provides automatic adjustment. If the net earnings, after making this allowance for depreciation, and after providing all expenses of operation including ordinary repairs, amount to over twice the interest charges upon the bonds outstanding, it is probable that the bonds may be purchased with safety.

"Before finally determining the question, however, certain political factors must be taken into consideration. The relations of the company to the leaders of the dominant, political party must be investigated, as well as the likelihood of agitation looking toward a reduction of rates. The probable attitude of the legislature and municipalities on the question of renewing the franchises when they expire—or if the terms are broken—must be considered. In general, it must be learned whether any real ground of contention exists between the company on the one hand and the public and its

representatives on the other, because it is inevitable that the company will weaken its independence of position by too close a connection with politics, and that the physical property will suffer if there is any lack of uninterrupted attention to it."

As in all new enterprises, speculation has run ahead of the reality, while financing, built upon over-sanguine calculations, has had difficulty in squaring accounts when brought face to face with facts. In most of the calculations, insufficient allowance has been made for the wear and tear of service, in other words, for renewal. After a few years' test of earnings against expenses, it has become evident that a proper allowance for depreciation of plant would show a heavy deficit in the income account; as in most cases no allowance or only a meagre one has been made. For a time, this method of bookkeeping proved less disastrous than might have been expected owing to the rapid growth of population and business in American cities. It has also been possible in many cases to consider the enhanced value given to the franchise by growth of business as an offset to the depreciation of equipment. So far also as the plant was kept up to a high degree of efficiency by charging the expense of repairs to operation expenses, the absence of a depreciation account was partially offset. This, however, will suffice only for a limited period, and all telephone companies must sooner or later meet the real problem of providing for very heavy maintenance and depreciation charges.

As a general rule, telephone bonds in common

with the obligations of all public service corporations sell upon about the same income basis as high grade industrial bonds—that is to say under normal conditions, they return considerably more than railroad or municipal bonds. It is difficult to speak of the convertibility of public utility bonds as a class, for the reason that they differ widely from one another in this respect. In general it is certainly more difficult to dispose of public utility bonds than railroad bonds; and with certain exceptions, they do not possess sufficient convertibility to justify their purchase by any one who may need to realize quickly on his holdings.

Public utility bonds, except such issues as are convertible into stock, possess little prospect of appreciation in value. It was pointed out above that depreciation is not properly allowed for and it is very difficult for the securities to advance in the face of this obstacle. The bonds of public service corporations, however, are relatively more stable in price than railroad bonds because their earnings are not subject to the fluctuations which occur in railroad properties between years of prosperity and years of depression. Therefore, public utility bonds are very good for permanent investment purposes, although it should be pointed out that their stability of price is largely due to the comparative inactivity of the issue.

A partner in one of the large New York bond houses which deals in public utility bonds, has made some remarks concerning this class of securities which especially apply to telephone bonds.

Although these remarks are rather pessimistic, yet they are well worth repeating.

"The question remains, do public utility bonds afford a desirable security for the investment of a business surplus and of trust funds? In regard to the former, it may be said at once that public utility bonds do not meet the necessary conditions. The security is too doubtful and the convertibility features are not sufficient. For private investment, however, the case is somewhat different. Keeping in mind the desirability of diversifying investments and admitting the attractiveness of investing in a class of property whose earnings are comparatively stable, it seems clear that public utility bonds cannot be dismissed without consideration. When a company is found whose property is substantially greater in real value than its bonded debt, whose allowance for depreciation is ample, whose franchises are satisfactory, whose earning capacity is large, and whose management is capable and upright, the investor is justified in giving careful consideration to its issues. Unless all these points are found to be satisfactory, however, the investor should content himself with some other form of security. For some years to come, it is to be feared that many of our public service systems will suffer from the war of discordant elements—disregard of the rights of the public on the part of the management, and socialistic agitation for control on the part of the community."

Therefore, until these warring factions are reconciled and the questions at issue adjusted with fair-

ness to the security holders and the public, the investor should be most prudent in his purchase of public utility obligations, although nearly all underlying liens and certain other issues of established properties should be perfectly safe. Bonds of such properties constitute a safe investment providing they conform to certain stringent requirements. They yield more liberally than municipal and railroad bonds of equal security. But it is important that purchases of bonds of any class be made only after careful study. This especially applies to telephone securities, and the telephone companies must surely some day be sold out to the government or else be subject to government competition.

CHAPTER XIV.

WATER POWER SECURITIES.

COAL will slowly continue to increase in value until it becomes exhausted. The eastern mines are continually being depleted while the western mines are continually being developed farther from the manufacturing centers. The cost of transporting this coal is gradually increasing, and in fact, everything tends to make coal, the present source of power, more expensive. Not only, however, is the supply decreasing, but the demand is increasing, which tends still more to increase the price of coal.

This decrease in the world's coal supply coupled with the development of alternating electric current and high voltage transmission has turned the attention of the public utility companies to the development of water powers. Unlike coal properties, the expenses of which (per ton mined) should continually increase, the expenses of a good water power development (per horse power) should not increase but rather, until the plant is producing its maximum output, should tend to decrease. This is principally due to the fact that very little labor is required to operate a water power plant, some half a dozen men being all that is necessary; second, it is needful to purchase only very few commodities, the principal item being oil for the machinery; and, third, because the total interest on

the investment is a fixed amount. As the output of the plant increases until it is producing its maximum output, these interest charges per horse power will decrease. Therefore, while the value of the coal properties of the country is continually decreasing, the value of the water power of the country is gradually increasing.

It was an appreciation of these facts and the fear that possibly the day might arrive when the owners of our water powers would have the only practical source of power supply, that so stirred ex-President Roosevelt, ex-Secretary Garfield, Mr. Pinchot and others to the conservation policy in which they are so much interested. In fact, it has been said that this question: "Who shall control our water powers?" was one of the principal reasons, if not the chief reason at the bottom of the Ballinger troubles. These men saw the great strategic position which the owners of the nation's water powers may some time hold, and thus strove to retain as many as possible of these powers, especially the undeveloped powers of our great West.

Notwithstanding the fact that the water powers of the country will have a great future value, there exists in the minds of the public in general an exaggerated idea of the present value of these powers. With the great improvements that have been made in boilers, steam engines and electric generators, and with the great strides that have been made in the design of power stations, distributing lines and the apparatus by which the consumer utilizes electric power, the cost of electric

power generated by steam, even though the cost of coal has continually increased, has during the past twenty-five years gradually been reduced. How long this will continue it is difficult to foretell. A limit, of course, will finally be reached.

It often costs considerably more today to construct a water power development and build the long transmission lines which conduct the power to its market than it does to construct a steam power plant at that market. Although the cost of operation is less for a water power plant, it will be found in the final analysis, if we take into account the greater interest charges on the investment, etc., that the cost of electric power, delivered to the consumer, is not at the present time so very much less, when generated by water, than when generated by steam. This means that the margin of profit in water power undertakings is not as great as is generally supposed. Owing to the high regard, however, in which water power securities are held, the securities of many of these companies now sell at fairly high prices. The reader should therefore be primarily interested in selecting a safe investment from some of the newer companies; he should, however, use even more care in selecting water power bonds than in selecting railroad, industrial or other public utility bonds and should not assume that because it is a water power, it must necessarily be a profitable undertaking.

Five Points to Consider.

Therefore, when a bond salesman offers water power bonds, he should be willing to sit down and

systematically analyze different issues for his clients and select the one which best passes the following five tests:

(1) *Are the water rights secure, and have the flowage, lands and other rights been legally acquired.* Upon a recent examination of a certain water power in the West, it was found that although the power company is now using the stream, yet a certain irrigation company has the right to divert a large proportion of this water from the river above the power company's development, if at any time it so desired. Although there is no danger whatever of this irrigation company doing so at the present time, yet, owing to the fact that they have a right to divert some of the water, the bond issue on this development was not endorsed. It is, therefore, very necessary for the bond house financing the proposition to make a very careful examination of all the water rights and privileges ever issued in connection with the stream, as well as the various other legal questions involved. That is to say, there is much more need of careful legal research in connection with the construction and development of a water power than is necessary in connection with the development of other public utilities.

(2) *Is the primary 24 hour power of sufficient size to make the proposition permanently profitable, and can this primary power be obtained without storing an abnormally large amount of water or without relying on a reserve steam plant.* The examination of a water power in Pennsylvania which was very near a large city, and which had

every advantage, such as a high fall, good market for the power, stone bed for the dam, etc., brought out the fact that it was too small to permit of an economical development. The cost of a water power development per horse power is much less for large developments than for small. The size of dam required is not at all proportional to the power developed, and the transmission lines cost nearly as much in the case of a small development as in the large one. It may readily be seen, therefore, that the fixed charges on many of the small developments may be so large that the plant cannot possibly be operated at a profit.

Of course, in the olden days with the wooden dam, a power of only a few hundred horse power was looked upon as a good asset. In fact, it was a good asset for a grist mill, a saw mill or possibly a woolen mill; but for profitable, electrical development the horse power should be numbered by thousands instead of hundreds. Not only should the primary power be of sufficient size to make the project profitable, but this primary power should be obtained largely from the natural flow of the river without relying on additional storage reservoirs. The reservoir created by the dam at the development should be large enough to regulate the daily fluctuations in the flow of the river, but if additional reservoirs are required the total cost of the development may be excessive.

A project in California was recently examined which contemplated—on account of the wide variations in the flow of the river—the use on

the main river and its tributaries of five large storage reservoirs together with a system of ditches. Not only was the cost of this development prohibitive, but so many reservoirs and ditches made the reliability of the power very questionable.

Again, the primary power should be obtained without relying on a steam plant. Not only will the cost of the steam plant greatly increase the total cost of the development but the cost of generating the electricity from the combined steam and water power plants will also be greatly increased. In nine cases out of ten, advice should be given against investing in any water power project which required the construction of a steam plant to make up the deficiencies in the water power,

(3) *Are there records of the stream by days for a period of five years.* This is very important. When making an examination of a stream, a bond house may find its flow of sufficient volume to develop a very large horse power and all of the neighbors living in the vicinity of the stream may swear that the stream is always "practically" as high; but engineers have found that people (although honest) are very forgetful, and it would be unwise to endorse any water power proposition on a stream which has not had government reports thereon for at least five years back and preferably ten years or more.

Since about 1888 the United States Geological Survey has maintained gauging stations on many of the important rivers of the United States. The number of these stations has been increased each

year so that at the present time they are established on most of the important rivers of the country. The records of these rivers are found in the Water Supply Papers which are published every year by that department. From these records, water power engineers can figure fairly accurately, if the gaugings have been made at proper points along the river, the amount of power available. The fact that there are no government records on any particular river under consideration does not necessarily mean that no reliable power exists on that river, but if there are such records, it does mean that its reliability can be definitely determined and its value thereby definitely established.

(4) *The character of construction. Is the dam built on solid rock. How are the ends tied.* There are propositions where the legal rights have been properly secured, where there is sufficient power, but where the promoters, in order to save money, did not adopt the best type of construction, or select that location for their dam which would require the least amount of construction material regardless of the proper foundations.

Water power developments are a good deal like the little girl who "had a little curl and who was either very very good, or very very bad." A railroad may be abused, but it can only gradually depreciate. A water power, however, today may be a great and profitable proposition and tomorrow may be entirely wiped out. A dam is either good or no good. When it is in place, it is worth the million or more dollars which it cost. When it has

been washed away, that million dollars is a total loss. Two photographs will illustrate this point; one of the great Austin, Texas Dam with the Colorado River rushing over it at a height of ten or twelve feet above the crest, furnishing power for lighting the streets and operating the street cars of the capital of Texas. It is a beautiful picture and represents a conservative investment of about two million dollars, of which a city or corporation may well be proud. The second picture, however, was taken only a few hours later, but shows the river freely running by, with four jagged junks of granite masonry projecting from various points in the water. In other words, during the few hours intervening between the time these photographs were taken, the great Austin Dam broke and that investment became a total loss. This is but one illustration. Reports are received every few months from some part of the country of a dam that has been washed away, causing a default of the interest on the bonds secured by said dam, and a reorganization, if a total loss is avoided. Therefore, it is very important to purchase water power securities only of companies where the engineering work has been carried on by men of the highest reputation who actually were given a free hand to spend as much money as was necessary for a first class dam.

(5) *Is there a market for the electricity at a profitable price.* Even if the water rights, the amount of power, the history of the stream and the character of the construction is satisfactory, there

is something else to be considered before placing one's money in water power developments. The Waldorf-Astoria in New York City is probably a great financial success; but erect the same hotel on the plains of Kansas, and it is immediately a financial failure. Yet many water powers, which, if located near prosperous cities, would be very profitable, are being developed in certain out-of-the-way localities where it will be years before the power can be sold on a profitable basis. Some day it probably will be, but how is the interest on the bonds to be paid in the meantime? Power cannot be economically transmitted for much more than 200 miles at the present time. The cost of transmitting it that distance is not due so much to the direct loss of power as to the interest on the investment. It costs from \$4,000 to \$8,000 per mile to erect a modern transmission line. If the line is 200 miles long its total cost will be in the neighborhood of \$1,000,000, the interest charges on which at 5% amount to \$50,000. Moreover, some of the larger water power companies have found it necessary to erect duplicate lines simply for use in times of emergency, for in no other way can they hold their trade and furnish power continuously to operate the street cars and electric lights. It is very evident, therefore, that in order to meet these heavy interest charges, a large amount of power must be sold and at fairly good prices.

The Niagara Falls Plant is an illustration of a development which was built without due regard to the market. The experience of the Niagara Falls

Power Company clearly shows that when it is necessary to create a market for the power, the process is a slow one, for although this company has been in existence for many years it has only just recently begun to pay dividends on its capital stock.

The Dangers of Over-Capitalization.

In many states today the issuing of bonds for the development of railroads, street railways and even electric lighting and power companies are subject to state approval. This, of course, does not mean that bonds are necessarily good because they are approved by the Public Utility Commission of Wisconsin, for example, as the commission is not called upon to judge the value of the proposition. These commissions, however, are a distinct check on over-capitalization, and some day they will be greatly appreciated by investors. Very few states today have any laws regulating the capitalization of companies formed for the development of water powers. Thus, of the new so-called public utility companies which are today being formed, probably the most flagrant cases of over-capitalization will be found in water power companies. Therefore, investors purchasing water power bonds should make sure that they deal only with bond houses of the highest character, those who have a reputation at stake, and who are known by experience to have stood back of all their undertakings.

Advantages of Water Power Securities.

There are few things which have a brighter future than the securities of some of our proven, successful and well constructed water powers operating near large cities. The bonds of these companies can be purchased to yield about 5% and in some cases more. These should be safe as to principal and interest. Moreover, in the case of a few of these undertakings, the preferred stocks at the present time should be a good investment. But this is not all; not only are many of the bond issues as safe as the highest grade railroad bonds, but the common stocks of some of these developments which are now selling at only a few dollars a share, should be very valuable in years to come.

If a man will take a fund of fifty thousand dollars and will employ a water power engineer to select for him ten or twenty water power companies in which to invest, whose common stocks are selling at from \$20 to \$30 a share and will follow the advice of that engineer, he will "wake up" some day and find that these stocks, for which he paid only fifty thousand dollars, will be worth one or more millions. Of course, this is not coming quickly. Between now and the time it does come, many present ambitious but impatient holders of these securities will become discouraged, get tired of waiting, and will sell their holdings. Today may not be the time to buy such securities; but there is a time coming when it will be desirable to pick up these common stocks here and there, for one hun-

dred years hence the men who own our water powers will control the industries of America. Therefore, when a power is found which stands all the tests above given, and has by a few years operation proven its ability to make money, and is being operated by men who stand for integrity, investors will be justified in buying an equal amount of first mortgage bonds and common stock.

Figuring Horse Power.

Herewith is submitted a brief and simple discussion of the flow of a stream and an outline of the method used in ascertaining the horse power of any stream. This explanation may be of service not only to the investor and salesman, but also to the owner of a small grist mill, or to a farmer who has a small stream running through his land.

The two factors that determine the horse power which can be obtained from any stream, are its flow and the vertical distance through which the water falls. It is a comparatively simple matter to determine the latter, but it is not quite so easy to ascertain the former. There are three methods of determining the flow of a stream; but only the velocity method will be discussed. The velocity method is the one most commonly used and consists simply in measuring at the point where the flow is to be determined, the velocity of the current and the area of a cross section of the river. The velocity of the current is measured either by a water meter or by timing a float between two given points. The area of the cross section (which is the area of

a section of water that would be made by the vertical cut of a knife if you could draw the knife through the water across the stream from bank to bank,—similar to the area of the section of a loaf of bread made by cutting the loaf in two) is approximately determined by measuring the depth of the water at different points in a straight line directly across the stream from bank to bank. The product of the velocity in feet per second and the area in square feet gives the flow in cubic feet per second.

But the flow thus determined is simply the flow at one particular time and does not by any means fully determine the flow of the stream. It must be remembered that the flow of a stream is not uniform from day to day or from month to month or even from year to year. It is usually highest in the spring and lowest in the fall or late summer. In order to determine fully the power that can be developed from a stream, it is necessary to measure the flow at different times and to determine its variations. This is done by measuring the flow at different stages of the stream and by erecting a gauge and recording each day the level of the water.

A record of any stream obtained can be summarized and set down in a table like the following, which is the record of the flow of the Hudson River in 1909 taken from the Government Reports:

Monthly Discharge of the Hudson River at
Mechanicsville, N. Y. Discharge in
Cu. Ft. per Second.

Month	Maximum	Minimum	Average
Jan.	10,300	1,590	5,210
Feb.	29,700	3,970	11,600
Mar.	15,700	5,640	9,220
Apr.	46,300	11,500	25,800
May	28,200	7,230	17,000
June	9,560	2,500	6,020
July	3,390	1,210	1,980
Aug.	3,210	235	1,520
Sep.	2,140	430	1,460
Oct.	2,270	531	1,560
Nov.	2,620	718	1,680
Dec.	2,550	400	1,570
The Year	46,300	235	7,050

This table is an excellent illustration of the fluctuations in the flow which occur from day to day and from month to month.

Now the question is, which flow is to be used in figuring the horse power of the stream. Is it to be the flow of any particular day or of any particular month, or is it to be the maximum flow, the minimum flow or the average flow? Of course, if we wish to ascertain the continuous power which can be developed day in and day out, we would use the lowest flow. This in 1909 on the Hudson River was 235 cu. ft. per second. But the lowest flow usually occurs only one or two days in the year. On the Hudson River it occurred only one day and

that day was Sunday when the mills were all shut down and the dams along the river were holding back the water.

In constructing a water power development, the reservoir created by the dam is generally of sufficient capacity to regulate the daily fluctuations in the flow and to keep the flow continuously, at least equal to the lowest monthly average. This is the flow on which the primary power of the stream is usually figured. In the case of the Hudson River in 1909 this was 1460 cu. ft. per second.

The process of figuring the horse power after the height of the water fall and the flow of the stream have both been determined is a very simple one. The power developed by a waterfall is nothing more or less than the power developed in a given time by a falling body. A waterfall is simply a series of falling bodies. The horse power is, then, the weight of water in pounds flowing in one second, multiplied by the height of the waterfall in feet, and divided by 550 (this being the number of foot pounds per second equivalent to 1 horse power.) As the weight of a cubic foot of water is approximately 62.5 pounds, the formula for horse power in its elementary form is then:

$$\text{Horse Power} = \frac{\text{Flow in cu. ft. per sec.} \times 62.5 \times \text{Height of Fall in ft.}}{550}$$

The horse power thus figured, however, is the theoretical horse power and on account of the losses of power in the water wheels and electrical generators, can never be obtained in practice. If we take these losses, which usually amount to about

25%, into consideration, the formula then becomes in its simplest form:

$$\text{Horse Power} = \frac{\text{Flow} \times \text{Height of Fall}}{12}$$

Below is the calculation of the 24 hour primary power available from the Hudson River in 1909 at Mechanicsville, N. Y. The head of water here is 18 feet and the lowest average monthly flow was, as given above, 1460 cubic feet per second: Therefore, Horse Power = $\frac{1460 \times 18}{12} = 2190$

CHAPTER XV.

MUNICIPAL SECURITIES.

BENJAMIN FRANKLIN is reported to have said on one occasion something to the effect that "nothing in life is sure except death and taxes." According to articles which have been published on municipal bonds in current periodicals, it would appear that Franklin committed a grave error when he omitted municipal bonds from this statement. Surely municipal bonds are founded on taxes, and if taxes are sure, then municipals should be sure; but if so, how do we account for the defalcations on municipal bonds which periodically take place? Certainly there is a loophole somewhere, and it is the purpose of this chapter to show where this loophole exists.

The word "municipal" comes from the word "municipality," which is a general term referring to a city, town, and possibly a county. Originally it was supposed to refer only to a city, but it is now a general term, and dealers are tending toward the practice of calling all bonds which are not corporation bonds, municipal bonds. As every municipality is in reality simply a corporation, deriving its authority from a charter received from the state the same as every other corporation, municipal bonds might be called corporation bonds. However, there is one great theoretical difference, namely; that corporation bonds are dependent upon the earnings of a corporation, which may or may

not be sufficient to pay the interest thereon; while municipal bonds are dependent upon only the taxes of the community, *which can be increased to any amount necessary to pay the interest on any legally issued municipal bonds.* Not only can these taxes be arbitrarily assessed, but this assessment comes before the earnings of any corporation.

For instance, assume that you own one of the Boston Terminal Company First Mortgage 3-1/2% bonds due February, 1947, secured by a first mortgage on the great South Station in Boston, Mass. These bonds are issued by a corporation known as the Boston Terminal Company, the stock of which is owned by large railroad interests using the terminal. If these railroads failed to pay the interest on these bonds, it is only necessary for the bondholders to foreclose their mortgage and take this terminal property, erecting thereon office buildings, apartment houses, or anything that might be desired. In other words, holders of these Boston Terminal bonds have an "absolute" first mortgage on this most valuable property subject to one exception. This exception, is that the holders of the City of Boston 4% bonds theoretically have a prior lien on this great terminal property as well as on all other property in the city of Boston and, if at any time, the city of Boston should default on its own bonds, the holders thereof theoretically could unite and assess the Boston Terminal Company and all the owners of other Boston property for a sufficient amount to pay the principal and interest on the City of Boston bonds. Moreover, if the

Terminal Company should fail to pay such taxes and assessments, the Boston Terminal bondholders must voluntarily assess themselves for the payment of the principal and interest due the holders of the City of Boston bonds.

The Purpose of Municipal Bonds.

Like any private corporation, a municipality is obliged to borrow money. In making permanent improvements, such as building schools, erecting fire houses, purchasing land for streets, and many other purposes, a city is justified in borrowing money by selling bonds, and is justified in refunding certain of these bonds when they become due. For other purposes, such as paving, buying fire horses, and making other purchases which rapidly depreciate, a city is also often justified in borrowing money for a short period, but in such cases, the bonds should be serial bonds, and arrangements should be made to pay up portions of the principal each year as they mature from the regular tax budget.

Every year there are about \$350,000,000 municipal bonds sold, and less than ten per cent are for refunding purposes. This means that about \$315,000,000 of new money is borrowed every year by municipalities of our country for municipal improvements; or, in other words, the total net indebtedness of our municipalities is increasing about \$315,000,000 each year.

The following table shows the various purposes for which municipal bonds are issued in an aver-

age year, and the average sum of money which goes to the different purposes:

Water Supply	\$50,000,000
Streets and Bridges	75,000,000
Sewers and Drainage	30,000,000
Schools and School Buildings	50,000,000
General Building	35,000,000
Parks and Museums	12,000,000
Lighting	3,000,000
Miscellaneous	30,000,000
Funding and Improvement	30,000,000
	\$315,000,000

During the past few years, municipal borrowing has greatly increased, and it is a subject which deserves most careful consideration. Some bankers feel that our increased municipal indebtedness, expanding at such a rapid rate, will jeopardize the safety of certain municipal issues. This may be overdrawn, yet it is a subject worthy of careful consideration, and certainly the rate of increase should be diminished. In short, the sales for each year average about 40% increase over each preceding year, which is of course, stupendous. The objection should not be to the amount so much as to the purpose of the issue. The land a city buys for park purposes or for laying new streets, or additional water or sewerage purposes is not criticized for every dollar spent for such permanent improvements, the city is five dollars better off, but objections are well founded when bonds are sold to raise

money for macadamizing roads, removing snow, or for Fourth of July celebrations. Although theoretically such bonds are as good as bonds sold for any other purposes, yet the ultimate effect upon the financial situation, and especially on the city, is vastly different. Of course, any abnormal increase in the issue of municipal bonds tends to depress the price thereof, and this is the reason why City of Boston bonds sell at times cheaper than Boston Terminal bonds, although theoretically the former are much better. In practice, however, municipal bonds are not always better than high grade corporation bonds. Although theoretically our homes can be sold to pay the bonds of our town, unhappy will be the men who attempt to do this, and bondholders know that to hold the power is entirely different from being able to enforce. Thus they are wary of cities and towns which are borrowing too heavily.

The Sale of Municipal Bonds.

When a municipality desires to raise money for any of the above purposes, a vote is passed by the aldermen and common council if it is a city, or the citizens of a town if it is a town, authorizing the treasurer to borrow a certain amount of money at a certain rate for a certain length of time for definite purposes. This means that the treasurer will have bonds printed, and sell them in the market by advertising for bids. If the treasurer is authorized to raise \$100,000 at 4% for twenty years, he advertises 100,000 4% 20-year bonds for

sale, and the bond house which will pay him the most therefor gets the bonds. The following is a list of the bidders and the prices which they offered for \$175,000 City of Cleveland bonds, which were recently advertised for sale by the treasurer of that city. The report reads as follows:

The \$175,000 bonds were purchased by Hayden, Miller & Co. of Cleveland and the other issue was disposed of to a syndicate composed of the Tillotson & Walcott Co. of Cleveland, Stacy & Braun of Toledo and the Western-German Bank of Cincinnati. A list of the bidders follows:

BIDDERS.

	\$175,000 Bonds	\$60,000 Bonds
The Tillotson & Walcott Co., Cleve- land	\$178,250.25	\$60,342.00
The Western-German Bank, Cincin- nati		
Stacy & Braun, Toledo.....		
Hayden, Miller & Co., Cleveland....	178,300.00	60,067.00
The First National Bank, Cleveland	178,279.50	
New First National Bank, Columbus	178,100.00	60,312.00
Davies-Bertram Co. and Provident Savings Bank and Trust Co., Cincinnati	177,680.00	60,163.00
Otis & Hough, Cleveland.....	177,790.00	60,093.00
Seasingood & Mayer, Cincinnati...		
C. E. Denison & Co., Cleveland.....	177,451.80	60,085.80
The Cleveland Trust Co., Cleveland	176,882.50	60,087.50
E. H. Rollins & Sons, Chicago.....		
The Fifth-Third National Bank, Cincinnati	177,940.00	
Mansfield Savings Bank, Mansfield.	177,510.00	
The Security Savings Bank and Trust Co., Toledo.....	177,327.50	
The Central Trust & Safe Deposit Co., Cincinnati		60,324.00
Harris, Forbes & Co., New York...		60,258.00

This means that the city received \$178,250.25 for its \$175,000 bonds and \$60,342.00 for its \$60,000 issue; or, in other words, a premium of \$3,592.25 for these two issues. (There also was another and larger issue sold at the same time; but figures on this are unnecessary.) When money rates are low and bonds are in great demand, cities receive more for their bonds than when money rates are high and bonds are not in great demand.

Once there was a time when municipal bonds could be sold at any price, or to bear any rate, and sales were made privately. Any old bondsalesman has many most interesting tales to tell relative to those days when they "worked" our city treasurers more than they worked themselves, and if some of our magazines had then been so keen for graft articles as they are today, they could have found some most interesting material in connection with the sale of municipal bonds.

Before the bond house has purchased the bonds, it has the "proceedings" carefully examined by counsel. As a mortgagee employs lawyers experienced in real estate law to examine the title and proceedings in connection with the preparation of mortgages, so the municipal bond house employs lawyers trained in investigating the legality of municipal bonds to pass upon each issue before purchasing the same. In cases of some of the larger cities, the treasurer himself employs prominent counsel whose word is known throughout the land, to pass upon the proceedings connected with the issuance of the bonds before the bonds are offered

for sale. This, in a way, makes the sale more attractive, and enables municipalities to receive a higher bid for the bonds than they otherwise would.

As great strides have been made in the sale of bonds, so also in their preparation, and now many states have provided very careful directions relative to the preparation and proceedings for an issue. It appears that Texas was the first state to prepare comprehensive laws on this subject, and when purchasing a Texas municipal bond, one is supposed to find a certificate on the back of said issue stating that the legal proceedings have been properly complied with, and that the bonds have not exceeded the debt limit. In other words, the Attorney General's office at Texas, pretends to assume a certain responsibility in checking up the legal proceedings in connection with issues of all Texas bonds. A recent legislature of Massachusetts also enacted a law whereby certain municipal obligations should be registered at the state treasurer's office before being sold to the public. Briefly, this law is as follows, and it is one which other states should immediately copy:

CHAPTER 616, MASSACHUSETTS ACTS OF 1910.

An Act Relative to the Form of Notes to be Issued by Towns for Money Borrowed.

"Section 1. The director of the bureau of statistics shall furnish to the treasurer of every town within the commonwealth a book of forms for the issue of notes for money borrowed by the town. The note shall state the amount thereof, the date of issue, the interest which it bears, and the date when it will become due for payment, and record

of every note so issued shall be kept by the treasurer of the town in such form as the director of the bureau of statistics may designate.

"Section 2. Whenever a town votes to raise money otherwise than by the issue of bonds to be paid for from a sinking fund or by the serial method, so-called, the treasurer shall make a note or notes for the amount of the proposed loan, and shall use one or more in serial order of the forms furnished as hereinbefore provided, with the blank spaces properly filled in, and shall sign the same in the space or spaces provided, and a majority of the selectmen shall countersign and approve each note in the presence of the town clerk, who shall certify to the fact on the face of the note and affix thereon the town seal in a space to be provided therefor. The treasurer, after making a record of the transaction in accordance with the provisions of section one, shall forward every such note to the director of the bureau of statistics, together with a copy of said record, and a copy of the vote authorizing the loan, certified by the town clerk, and a certification by the town clerk that the person whose signature appears upon the note as that of the treasurer was the duly authorized treasurer of the town at the date when such signatures were made, and that the persons whose signatures appear upon the note as those of a majority of the selectmen were duly qualified selectmen when such signatures were made, and he shall at the same time forward the fee provided for by section four of this act. If upon examination said director finds that the note appears to have been duly issued in accordance with the vote of the town, and to have been signed by the duly qualified officials thereof, as herein provided, he shall so certify, and the director shall thereupon return the note by registered mail to the treasurer of the town.

"Section 3. Whenever any note issued by a town within the commonwealth, whether such note was issued before or after the passage of this act, shall have become due and shall have been paid, the town treasurer shall immediately notify the director of the bureau of statistics of such payment, stating the source from which the money to pay the same was obtained.

"Section 4. The director of the bureau of statistics shall establish a reasonable fee to be charged for every note certified, and shall turn over monthly to the treasurer of the commonwealth such fees.

"Section 5. A town treasurer who violates any provision of this act shall be liable to a fine of not less than one hundred nor more than five hundred dollars.

"Section 6. This act shall take effect on the first day of January in the year nineteen hundred and eleven."

It is true that this law does not yet include bonds and other city obligations, but this will be the next step.

Another very satisfactory method which city, town and county treasurers may adopt is to have a bond issue prepared by a prominent trust company, as in several of the largest cities there are trust companies which specialize in this work. For instance, when a town has voted to sell \$100,000 of bonds, and the treasurer has advertised for bids and the issue has been sold, the treasurer can then turn the matter over to one of these trust companies, which will have the bonds printed on specially prepared paper (which it is very difficult to counterfeit) and arrange the other details. The trust company will have the legal proceedings checked up by its attorneys, and will then certify on each bond that said bond is authorized, and in its opinion, is legally and properly issued. Except in certain states like Texas where the state authorities attend to such details, all town officials should work through one of these prominent trust companies and thereby save money for their own municipality and improve its credit as well as protect the investors and prevent any possible suspicion falling upon themselves.

Limitations and Loopholes.

All municipal bonds are not good, and when not high grade, they are not desirable. Sometimes

they are not good from bad faith, and sometimes from changed conditions or other causes; but usually the reason is due to an error in the original, legal proceedings, or because they were in excess of the debt limit. Relative to this subject, a well known authority on municipal bonds states substantially as follows:

“The common term in speaking of constitutional limitations is that of the constitutional limit of debt. That is, we find in a very large number of cities that the constitution provides that no municipality shall create a debt in excess of a given percentage of the assessed valuation, which percentage varies. We find it in some states as low as two per cent, in others, as high as 30 per cent. The assessed valuation, of course, may be a small percentage of the actual value, or it may be a large percentage of the actual value, which is supposed to be the selling price of the property. Taking these different ratios of assessed valuation as compared to actual values, we find it on real estate in New York 100 per cent; Philadelphia 100 per cent—(these are according to the latest statistics obtainable)—Boston 100 per cent, Baltimore 100 per cent, Detroit 100 per cent, Buffalo 75 per cent, New Orleans 60 per cent, St. Louis 60 per cent, San Francisco 50 per cent, Milwaukee 50 per cent, while Chicago has a very low assessed valuation of only about 15 per cent.

The percentage of issues allowed in the constitutions varies in different states, from two per cent in one state to 30 per cent in another. Here are a few

of the different limitations: New York, 10 per cent of the real estate assessment; Pennsylvania, 7 per cent of real and personal; Ohio, 8 per cent of real and personal; California 15 per cent; Missouri, 5 per cent of taxable property; Indiana, 2 per cent; North Carolina, no limit—each issue requires legislative enactment; Michigan, subject to any limitation passed by the legislature; and so on. We also find in some cases that a popular vote is necessary in order that a bond may be legally issued—a vote in many cases of all citizens entitled to vote; then again we find in some cases that only tax-payers can vote, and it requires the male and female vote. Moreover, in issuing a municipal bond, it must be issued for strictly municipal purposes.

It will therefore be seen how very important it is that all these legal features be complied with; for, if the bonds are not legally issued, the city or town can at any time stop paying the interest and refuse to pay the principal. But this is not the only way that investors lose money by municipal bonds. Here is a case of a small city in Minnesota, which was to use the proceeds of a bond sale to build a bridge over a river. The total issue amounted to about one hundred thousand dollars, the bridge being quite expensive, but it was not erected where the leading business interests wished it. *The fact that the city had only one important business industry was the bottom of the whole trouble.* In short, at the beginning of this affair some of the politicians of the town voted for cer-

tain reasons to build this bridge, issued these six per cent bonds in payment therefor and the bridge was built. After the bridge was built there was a change of administration; and the new city officials, who were said to have been elected by the owners of this certain industry, refused to pay the interest on the bonds. As the bonds had been legally issued, the bond house which sold them immediately took the matter in charge and started legal proceedings against the city to make its officials pay the interest. The courts upheld the bondholders, but still the bondholders were helpless, and agreed to compromise. To an innocent investor this seems very strange, yet the reason is very simple.

The great industry above-mentioned was then practically the only industry in the city, and the value of the city property depended on this one industry. When this bondholder's committee won their case in the courts, the directors of this industry simply announced to the committee that it would remove its plant elsewhere. As this plant amounted to about the total indebtedness of the town, the committee thought that such an event would cause the city to default on all its issues and so immediately withdrew its case, compromised with the municipality, and the bondholders accepted their loss. The entire assessed valuation was only about \$1,500,000 and the tax rate is now over \$40.00 per thousand. The city (for every little village is a city in that section) consisted of this one plant surrounded by some houses, a preten-

tious City Hall and this famous bridge crossing the river some distance out of town where no one wanted it built except possibly some alderman who had some land for sale in that vicinity.

There should be some way provided for our bondholders committees to visit these places before purchasing the bonds; no eastern man would ever have bought these bonds if he had first visited this lonely, forlorn, western settlement.

However, municipal bonds as a class should be safer than any other kind, although they are somewhat on the same principle as a note of a relative or some dear friend. Probably said friend's note is absolutely good; but if for any reason he did not volunteer to pay it, you would never sue him or force him to settle. It is the same with municipal bonds. Theoretically, they are the ideal permanent investment and when such municipals are considered, in which Massachusetts and New York savings banks are allowed to buy, this is practically true also. However, the same rule does not apply to all western and southern bonds of new and small cities nor to "special assessment" or "improvement" bonds of even larger cities.

Municipals Which are not Municipal Bonds.

The breaking of a Southern dam, which, at the time it was constructed, was one of the largest in the world, affords another illustration. This dam was erected by a Southern city at an expense of about one million dollars, damming the Colorado River, for the purpose of generating

electric light and power and for supplying said city with water. It was a great municipal improvement, and the city was well justified in issuing bonds in payment therefor.

There was no attempt on the part of the city officials to dispute the legality of the issue. There were no indications of graft, nor were any real reasons given for the non-payment of the interest. The city was not dependent on one industry, but is one of the most prosperous cities in the Union. Nevertheless, this city flatly defaulted on the interest on its bonds and pretended to refuse considering even the payment of the principal. In short, the officials of that city did not attempt to make any excuse but simply said, "What are you going to do about it?"

In answer to the assertion that there was one thing that the bondholders could do as a last resort, namely, "to come down and foreclose on the houses and stores, selling the same at auction, and so obtain the necessary money for the payment of these bonds, principal and interest," the reply was very brief and to the point. Said they, "Let them come as they will, but if they do, we will shoot every blasted one of them." This was not the sentiment of the best element of the community, and in fact, the leading bankers of the town did everything possible to aid in arranging a fair and just settlement. That "What-are-you-going-to-do-about-it?" spirit however did represent the position of the average citizen. Although there is no doubt but that the bondholders could have carried out the

above threat yet they would have needed to call out the United States army to do it, and considerable blood would have been shed in that good old Southern town before the bondholders received their money.

The dam had broken, the city's supply of water and light had been temporarily cut off, there was no money in the treasury to pay the interest on these bonds, taxes were already fairly high, and the citizens simply "laid down" and insisted that the bondholders must meet them half way and share with them the loss, although, as above stated, there was no legal, moral, or business reason why the bondholders should compromise in any way.

As to the final settlement, an adjustment of this debt on the basis of new bonds bearing three per cent for five years, four per cent for the next ten years and five per cent for the final fifteen years was reached between the city and the bondholders' committee. All these bonds have been refunded and interest is being regularly paid.

But this is only one of many illustrations which could be given. Another is the case of Galveston, Texas. Galveston was a flourishing city. Suddenly one morning a few years ago, it was swept by a tidal wave. The citizens appealed to the country for aid and later asked the bondholders to release them from their obligations. The attitude of Galveston was very friendly, and her appeal was such that the bondholders felt willing to do something, so they agreed to accept a lower rate of interest for

a certain length of time, to purchase additional bonds, and to aid the city in getting on its feet.

Issues of Doubtful Legality.

Bonds issued in anticipation of special assessments levied to provide for improvements upon adjoining lands, are known as special assessment bonds. Certain of the paving and sewer bonds issued by many western cities, towns and counties may be classed under this head. Legal decisions have been somewhat at variance as to whether such bonds are binding upon the whole city or county, in addition to the portion specially benefited; but it is now generally conceded that they are not. In an Ohio case, the Supreme Court held that when between the county and benefited district, and the bondholder, the whole county is liable. "This decision was in substance paralleled in the case of Fort Scott, Kansas, wherein the Supreme Court affirmed that inasmuch as the special assessments upon the property directly held had proved insufficient to meet principal and interest on the bonds, the holder was entitled, in case of the city's default, to a writ of mandamus, compelling the levy of necessary taxes on the *entire city property*. Still again in an Indiana case, in 1884, the Federal Court held that certain gravel-road bonds, while payable primarily from the assessments of the adjoining lands on each side, were nevertheless obligations of the whole county as well, and should be considered such in reckoning its indebtedness in reference to the two per cent borrowing limit im-

posed by the Indiana State Constitution. Three years later, however, the Supreme Court of the same state, perhaps influenced by the narrow debt restriction just cited, gave an opposite opinion upon the gravel-road bonds. Ignoring the earlier ruling, this court held that the funds raised by special assessments on the adjacent lands, were, by the statute, for the express purpose of meeting principal and interest on the bonds, and for this alone—while no other provision had been made for their payment—that the evident purpose of the legislature was to place the burden of the entire cost of the improvements upon the owners of the contiguous lands, to which the bondholder's claim thus became limited. This view, while correct so far as it goes, takes no cognizance of the fact that the enabling act authorizes the issue of "bonds of the *county*," which being empowered to collect the assessments for their payment, may perhaps be constructed to loan its credit as well."

A Wisconsin city once issued special assessment paving bonds, which, added to its regular indebtedness, exceeded the five per cent constitutional limitation. The real status of the bonds thus became problematical, for upon the theory that they were a direct liability of the city, all those issued in excess of the restriction would be illegal, while otherwise they must be looked upon as special assessment bonds pure and simple, without redress from the city, and binding only upon the particular property benefited, in case of default. In spite of this case, it is still held by many able lawyers that

where there is nothing to the contrary expressed either in the act or the bond itself, the security may be considered a general municipal liability although primarily collectible by the county or city from special assessments. It is debatable however, whether or not that the holders of special assessment bonds should look wholly to the adjoining property for principal and interest.

At any rate, until the final settlement of this question, a difference in market price at which this class of security rules, as compared with the regular issue of the same city, will continue to exist. Thus we see Tacoma, Washington, floating its 4-1/2% bonds at a premium, when issued for strictly municipal purposes, while its late sale of 7 per cent special assessment bonds brought the city barely any premium; and Seattle easily floated a 4-1/2 per cent bond for a regular municipal purpose at a time when its 7 per cent special assessment road bonds were seeking a market at par. The ease with which money can be borrowed by means of this "contingent liability," has led some young cities, ambitious of growth, to pave their streets out into the adjoining fields. It thus becomes doubly important for the holder of special assessment bonds to know whether his claim is limited merely to the property abutting, or is binding upon the whole city.

A few years ago some eastern investors who had bought special assessment bonds—or improvement bonds, as they are sometimes called—issued by a city in Wisconsin had occasion to send a represent-

ative to look over the ground. The holders did not know that the bonds were not a regular obligation of the whole city, the bond salesman having done a distinct wrong by not so telling them. The city is a wide awake growing city and its regular bonds should be absolutely safe; but look out for its "improvement" bonds! To begin with, it was hard to find the streets called for on the bonds (improvement bonds generally state on the face of the bonds to what streets they refer); but after finding these streets, the next feat was to find the adjoining land given as security! It was found to be an outlying section of the city laid out with wide streets, paved and finished as are those in the very busiest sections of our largest cities. Of course, the city officials were probably honest in their belief that these improvements were needed and the city was shortly to double or quadruple in population. Nevertheless, the fact remains that some years after the bonds were issued and these improvements had been made, the grass was growing between the pavement blocks, and the birds were building nests on the sign boards and lamp posts. As to the property improved, it may be of value for a cranberry bog; but it certainly was not worth the cost of the improvements.

Straight municipal bonds of established cities of over 20,000 population should be absolutely good. But, an underlying railroad or public utility bond is preferable to special assessment bonds or second grade municipals.

Special Assessment Bonds.

Even our largest cities resort to these special assessment bonds. In Chicago, for instance, when a street is improved, the cost of improvement is often met by an issue of special assessment bonds, the interest and principal of which is supposed to be paid by the owners of property abutting on the street which is being improved. These assessments rank after the assessments for general taxes which are used for the payment of the principal and interest of the regular Chicago bonds. In other words, a special assessment bond comes between a straight municipal bond and an ordinary mortgage which, of course, is subject to all taxes and assessments.

Special assessment bonds usually recite on the face that they are issued for improvements on a certain portion of a given street, and that they are payable out of taxes levied upon that particular property. In Illinois, these bonds run for five years, drawing interest, the interest and one-fifth of the principal being payable each year. There is very little uncertainty about straight municipal bonds, most of the trouble coming from these special assessment or improvement bonds. In addition to the legal difficulties and the fact that the land frequently does not equal the amount of the bonds, there are other reasons why these bonds are often unattractive. For instance, when a street is improved in Chicago, an agreement is made with some contracting company, and sometimes before

the work is completed over the entire district, the first instalment of the assessment falls due. In such cases, the tax-payer whose land has not been improved says to the treasurer of the city of Chicago, "You have not improved my street, and I do not propose to pay my tax until the work is fully completed." Such cases are in addition to the instances where improvements have been made in outlying districts for work that was never needed, when the tax-payer goes to court and fights the bondholders. If the bonds have been legally issued, and if the bondholders have the courage to fight the case, they may win although in some cases it costs more than the bonds are worth. There are, however, many instances where the actual value of the property is not worth the improvement, as in cases where streets have been paved and sewers installed throughout prairie districts where the value of the lots actually did not equal the assessment, so that if the bondholders took the lots, they would still lose money.

Therefore, when purchasing municipal bonds, one should know whether they are "straight municipal bonds" or "special assessment bonds;" and if the latter, they should be most carefully studied. If they are special assessment bonds issued by the city in which the reader lives and he can drive through the streets and see for himself that the property well deserves the improvement and is worth very much more than the cost of said improvements, he is justified in buying these special assessment bonds, provided the legality has been

approved by leading attorneys. If, however, an investor is unable to see the property, he should make very careful inquiries before purchasing such bonds.

How to Select Municipal Bonds.

The number and variety of factors which determine the value of municipal bonds make this perhaps the most difficult class of securities for the investor to appraise. In the case of corporation bonds, he can turn to the reports of the issuing company and study the earnings and the surplus over interest charges. A comparison of one company with others in the same field enables one to form a judgment as to the worth of its bonds. It is however much harder to determine the standing of a "municipal." Of two cities of equal population and net debt, one may have a much better credit rating than the other; but even when he knows that the credit of a municipality is good, the investor cannot take it for granted that all its bonds are good investments. Each issue should be analyzed by itself to determine that it is legal. The laws of the states differ, for instance, in limiting the indebtedness which a city may incur. Usually, its indebtedness is based on property valuation. It is very common for a sinking fund to be provided for municipal bonds, and the investor must decide if this sinking fund is sufficient. The character of the population is another factor in determining a city's credit. Is it largely made up of laboring people or of more prosperous classes?

If a resort with a transient population, this also must be considered. Lastly, the investor should find out how the borrowing of the municipality has been done. It may have borrowed heavily several times within a few years, or its borrowing may be spread over a number of years. All these are factors which affect the value of an issue.

A short rule for selecting an issue is as follows: Endeavor to select such municipals as are legal for the savings banks of New York State, Massachusetts, Connecticut or some other conservative state. Although the laws of Massachusetts are very satisfactory, yet the laws regulating the investments of New York savings banks are most often given as a guide. Such laws provide that banks can buy only the bonds of a city having at least 45,000 population and which have been incorporated at least twenty-five years. Moreover, the city must be located in a state admitted into the Union before 1896. The total debt of the municipality must not be more than seven per cent of the entire valuation of the taxable property, and the city must not have been in default on principal or interest since 1861. The following are a few of the more prominent cities of the country which this includes. Of course the first city of importance is New York City (although it is interesting to note that Massachusetts savings banks are not allowed to invest in New York City bonds). Other cities in New York State are as follows: Buffalo, Troy, Syracuse, Albany, Binghamton, Elmira, and Jamestown, Cities outside of New York State whose bonds are

held in numbers are: Portland, Maine; Boston, Cambridge, Lowell, Worcester, and Springfield, Massachusetts; Providence, Rhode Island; Bridgeport, Hartford, and New Haven, Connecticut; Newark, New Jersey; Philadelphia, Pittsburg, Allegheny, Harrisburg, Reading, Scranton, Pennsylvania; Baltimore, Cincinnati, Dayton, Louisville, Indianapolis, Detroit, Grand Rapids, Milwaukee, Minneapolis, St. Paul, Des Moines, Omaha, San Francisco, Los Angeles, St. Louis, and Kansas City.

In addition to the above list one may be safe in purchasing the bonds of any New England city, or of any town in Massachusetts, Connecticut, New York or Pennsylvania.

CHAPTER XVI.

EXCHANGING INVESTMENTS.

A Trick Played Upon Inexperienced Investors.

IT may be all right to swap marbles or jack-knives, and there may be nothing dangerous in trading horses; but when it comes to bonds, stocks and other securities, upon the income of which one's family is absolutely dependent, this is another matter.

In talks to bond salesmen through the Babson Courses on Investments they are advised to ask an investor, when he says he has "no money," if he has any securities which he would trade. In fact, one of the principal uses of a "Composite Circular of Bond Offerings"* is to enable dealers to dispose of any bonds which they take in trade. Or, to state it another way, it enables dealers to take in trade any one of the fifteen thousand different bond issues held by investors and to find some kind of a market for anything in the line of a bond or stock certificate which might ever be offered to them. *This advice, however, should not be abused, or used to "saddle" investors with poorer securities than they originally held.*

The process which has been recommended to bond salesmen is that if, when out on the road, they encounter a man who has no money to invest, but who is interested in the bonds which they are offering, that they ask this man if he has not some in-

*Issued by the National Quotation Bureau of 66 Liberty St., New York City.

active bonds with which he is not fully satisfied, and which he would like to exchange for higher grade bonds which are well known and the security of which is beyond question. This is the method that bond salesmen may use when business is dull and money is scarce, whereby they can both perform a distinct service to their clients, and at the same time turn in an honest penny for their firm. In fact, many of the high grade firms do a large amount of this work, making two commissions, to both of which they are well entitled.

Justifiable Swapping.

Only a short time ago a letter was received from a well-known firm, stating that from a list of published stockholders, they (the firm) saw that a certain investor was the holder of twenty-five shares of stock in a certain industrial company. This letter stated that, owing to the present depression in business the firm fully believed that said stock would decline in price and its dividends would possibly be reduced. They recommended that the investor sell the common stock of this well-known industrial company, which had already had a phenomenal rise, and re-invest the money in the Pennsylvania Railroad Company Convertible 3-1/2% bonds due October, 1915, selling at about 96 and interest to yield about 4-1/2%. The latter argued that although the Pennsylvania bonds do not yield quite so much as the stock in question, yet said bonds are absolutely safe; while the common stock of this great industrial company, although it may

some day be very valuable, will probably decline in price in the meantime, and considering the security, permanent yield, and immediate opportunity of appreciation, it should be much better for the investor to make the exchange.

Such an argument is wholly justifiable, and the firm that writes such a letter is performing a distinct service to the community. Fortunate is this country for having such firms, and fortunate are the investors who deal with them and receive their communications from time to time. Of course, these firms often suggest that on such trades a little money be paid by the investor in order to secure an equal amount of better bonds; but this also is justifiable. Bonds are the same as clothes, furniture, or any other commodity. Although you do not always receive what you pay for, you never receive more than you pay for; and in order to exchange one bond for another, *which either yields the same and is more secure, or yields more and has the same security*, the purchaser must pay something "to boot," provided the maturity and marketability of the bonds are the same.

Of course, all men do not agree to this argument, and a very able man was advised recently in making a trade to pay something to boot; he replied by telling a story of his father who continually traded horses, paying a little to boot each time, only to end with neither horses nor money. Said he, "I am willing to trade, but I will never pay anything to boot. I must either trade 'even' or else the other party must pay me something to boot."

However, his father's case may have been one where, in order to obtain better horses by continually paying something to boot, he reached a point where he had neither money nor horse; but this is a great exception. Most people reach a point where they have neither money nor horse by continually trading a good article for an inferior article for the sake of getting something to boot.

Good Bonds for Bad.

One of the best illustrations of such a case is that of a young lawyer who was left, by his father, considerable property which was very largely personal, consisting of the highest grade bonds such as municipal bonds of leading cities like New York, Philadelphia and Boston, yielding about four per cent, and mortgage bonds of large railroad systems like the Pennsylvania, the New York Central, the Illinois Central, the Chicago, Milwaukee & St. Paul and others, yielding nearly four and one-half per cent. Like such other young men, he had never been obliged to earn any money; but his expenses continually increased, and he soon reached a point where he wanted a greater income. Instead of making a definite study of investments and changing his investments in accordance with conditions, confining them always to the highest grade securities (either bonds or short term notes), he began to trade his four per cent bonds for bonds that yielded four and one-half per cent. These he traded for bonds that yielded five per cent; while these he again traded for bonds that yielded five and one-

half per cent; and these he once more traded for bonds that yielded him six per cent. Each time he got poorer security and unconsciously paid a large commission to the bond house for making the exchange. The result is that today this young man has none of his good securities, and a large proportion of those which he owns are in default. Therefore, not only has he greatly deteriorated the security behind his father's investments and unconsciously reduced their market price nearly forty per cent, but, owing to the defaulted bonds, he actually receives a smaller yield today than he did when this money was invested in only the highest grade securities yielding about four per cent.

Many innocent investors, who are not trained in business, are urged to trade good securities which they have owned for years for speculative or uncertain stocks and bonds which salesmen tell them are "fully as good if not better."

A short time ago a bond salesman related the following story which had just come to his attention. Said he, "On my last trip to Maine I called upon one of my customers, and she asked me about some district irrigation bonds which have been issued on a certain property in Colorado. They are bonds which were offered at par to yield six per cent. Of course, I told her frankly that they are nothing that she would be interested in, knowing that she desires to confine her investments exclusively to municipal bonds and prefers not to buy even high grade corporation bonds. 'But,' said she, 'I have already bought five one thousand dollar

bonds. You remember certain bonds (she gave the name) which I purchased of you a while ago at par and interest. Well, this house offered to purchase these from me at 107 and interest. Believing that these new bonds are a good Colorado municipal bond and yield about two per cent more, of course I was interested. I told the bond salesman, however, that I should like to wait and look the matter up; but he stated that he could not give me time to do this because he had only a few of the bonds and there were two people in town who would take them if I did not do so. As the house advertises in the leading magazines and religious papers, I thought that it must be absolutely honorable, and therefore, made the trade.' Of course I explained to her that it is almost impossible to obtain a straight municipal bond to yield six per cent and that these bonds are not municipal bonds, although one might think so from reading the circulars. In short, although they are secured by a lien on a certain portion of land supplied by an irrigation system, and the interest may be collected by a certain tax on this land, yet practically her bonds resembled only a real estate mortgage subject to the regular municipal taxes on the property. I explained that she had purchased only an *irrigation district* bond and not a municipal bond as she thought, although there was no way by which she could hold the bond house or the bond salesman legally liable, as the circular offering the bonds stated nothing untrue. I therefore told her that the only thing for her to do was to sell these irrigation bonds as soon as possible, take her loss and forget the episode.

“She, therefore, told me to go ahead, and I immediately endeavored to sell these irrigation bonds. One can imagine my chagrin when I found that, within two weeks from the time she purchased them at par, the best I could sell them for was \$600 each. Upon bringing the matter before the bond house, they told me that they would be obliged to lose ten per cent on the municipal bonds which they had purchased of the woman; that they had paid the salesman five per cent, and the advertising expenses amounted to ten per cent; so that instead of receiving par for their irrigation bonds, they really received only 75 net to them. Moreover, they had paid 65 for the irrigation bonds, leaving a net profit to them of only ten per cent. Therefore, they truly could not afford to take back the irrigation bonds for more than 60, even although it was only two weeks after the sale.”

What can be done relative to such matters? The bond house did not make an abnormally large profit, and the case was not misrepresented to the woman, but it was absolutely wrong from start to finish. First, the irrigation company should not have been formed; second, a bond house should not purchase any bonds which sell for only 65; third, the bond salesman should have told the woman that she was not buying a municipal bond, instead of being content to let her assume anything, *and finally the woman should have had sense enough to know that she could not exchange a four per cent bond for a six per cent bond and get some money to boot, without giving up a good part of*

her security. But this is not all of the story. The bond man states further that since then \$5,000 of municipal bonds, such as were purchased of this woman have recently been purchased by this firm of a broker at about ninety-seven; and upon looking up the bonds' numbers, he found them to be the same municipal bonds which he had sold the woman some time previous and which she had traded for the irrigation bonds.

This is only one illustration of a host that might be given. The bonds referred to as being purchased by a civil engineer at par, secured by a first mortgage on an Ohio property, and which are now practically worthless, were really not purchased by the civil engineer for cash but were taken in trade for five good bonds which he had held for some years. These were five telephone bonds which he had purchased at par and which yielded five per cent; but a bond salesman came around and offered him 105 and interest for these telephone bonds if he would buy the Ohio bonds at par. In other words, to get on his old bonds a bonus of only \$250, this man lost \$5,000.

When a man has his cash and makes his first investment, he usually shows care and forethought, but about once in so often, he seems to have an uncontrollable desire to trade. Ninety-nine times out of one hundred he gets "the small end of the stick." Therefore, be content with trying to beat a man at your own game, but do not try to beat a bond salesman at his.

Exchanging Stocks.

The above is not the only way an investor gets into trouble by exchanging securities. A certain promoter in Boston, sold stocks in a large number of companies and received as his profit a goodly proportion of the stock. Only one of these companies amounted to anything; but certain circumstances developed wherein he saw clearly that the stock of one of these companies would some day be very valuable; in fact he was offered a large sum of money by certain interests if he could get back a majority of this one stock. In order to do this, he first arranged to have the company stop paying dividends. This any corporation can readily do, as it is always advisable to have a good surplus, and the profits can be used for extensions, which are always necessary, instead of borrowing money for such extensions. No one can justly complain if a corporation desires to be ultra conservative and use its profits for extending its plant rather than borrowing money therefor. As dividends were suspended, the demand for the stock lessened and the price declined. The stock was so distributed among small investors, however, that none of them had enough interest to cause any worry, and but few took the trouble of selling. In fact, when he sent an agent to ask them to sell, they immediately became suspicious and wondered why he should wish to buy if the stock was of so little value as the agent claimed.

This promoter, therefore, conceived a scheme

whereby he inaugurated an "underwriting company" and offered the holders of all of the different stocks which he had previously sold an opportunity of returning them to him and taking in exchange the stock of the new holding company. His argument was very plausible, stating as he did that probably a number of the stocks were valuable and a number were not; but which were valuable and which were not, it was impossible to tell. Therefore, he argued, that if these holders would place all their stocks together in the treasury of this holding company and take new stock in the holding company in exchange therefor, they would probably make a handsome profit and at least everyone would receive the same treatment. He also explained how the holding company had the privilege of exchanging stocks and of purchasing additional stock if they so desired from time to time, which he said would still further enhance the value of the holding company's stock. As, under this scheme, he offered to take back all of the stock which he had previously sold instead of the stock of only one company, the suspicions of the holders of the stock of this one company were not aroused, and they innocently turned in all their holdings.

A reasonable time after these holdings had been turned in and the entire deal consummated, this promoter who incidentally controlled the holding company, had the holding company part with these valuable shares to a firm in which he held a large interest; and they in turn exchanged them for shares for which a large sum of money was later

received, *but which money never reached the treasury of the underwriting company.* Of course, if any of the stockholders of the underwriting company had been willing to spend a large sum of money fighting the case, they doubtless could have obtained some of the money received from these valuable shares, although the promoter worked under the advice of able legal talent. The shares, however, were so scattered among small investors, each of whom had only a few hundred dollars invested therein, that the matter was dropped. A few original holders in the one valuable company, however, who for some reason or other did not exchange, now have an investment which they can sell at a large profit, while those who exchanged for the holding company stock have practically nothing.

Defaulted Bonds.

There is a firm of so-called "investment dealers" which makes a practice of obtaining the lists of holders of defaulted bond issues, and going to these people who are already frightened, urging them to exchange their defaulted bonds for worthless oil or mining stock. For instance, one firm obtained a list of the holders of the bonds of a well-known railroad company, which were in default a short time ago, the price of which fell to about 40. As these bonds were well secured, it was commonly acknowledged among all students of the situation that, ninety-nine chances out of one hundred, interest would soon be paid again and they would sell much higher. In fact, these bonds now sell in the

vicinity of 80. This firm, however, sent an agent to the various holders, filling them full of "gloom" and offering in exchange for each one thousand dollar bond, ten shares of stock in a mining company, which, although like the bonds, was not then paying interest, would, they said "very shortly pay a good dividend and should sell considerably above par." Of course, this is a very plausible argument and it can readily be seen why many of the holders of these bonds exchanged them for the stock on the belief that "a coming property is better than a dead one." However, instead of these holders recuperating their money by making the exchange, they have practically lost their all; while, if they had held the bonds, they would now be able to obtain as much, if not more, than they originally paid for them besides having received interest at six per cent during the defaulted period.

As a general rule the investor should feel free to go to the officers of the banks in which he does business, and frankly ask their advice. If these officers advise making the exchange, it is probably best to do so. Of course, there are instances where the bank officials will not feel willing to take the responsibility. In such cases it is well to sell the securities and re-invest in other strictly high grade securities which the bank recommends and in which they have their own money invested.

Although many other illustrations might be given, the following are submitted as two characteristic letters recently received and answers thereto.

Babson Statistical Organization,
Wellesley Hills, Mass.

Dear Sirs:—

I have had a certain broker call on me several times, urging me to sell the Railroad Company First Refunding 4's due April, 1951, which I hold, but which are now in default and which sell at about 40 flat. Do you advise selling them or exchanging them for some other good railroad bonds which he offers?

He also offers me some very good bonds, with which I am well acquainted, for my Railroad Company 3-1/2's. Have you any advice relative to this exchange?

Very truly yours,

Reply.

Dear Sir:—

In reply to your letter will state that I think it would be a great mistake for you to sell the Railroad Company Refunding 4's at present prices. Although they may sell lower before the reorganization is completed, yet I believe that they, or the securities which you will receive in place of them, are bound to sell much higher.

Regarding the three and one-half per cent bonds of the Railroad Company to which you refer, you may be interested to know that there is a bill before the Legislature to make these bonds a legal investment for savings banks of said state, and if this bill is passed, said bonds

should sell at very much higher prices. Possibly the bond salesman has this bill in mind.

Very truly yours,

ROGER W. BABSON,
President.

Babson's Statistical Organization,
Wellesley Hills, Mass.

Gentlemen:—

I take the liberty of asking your advice in regard to a proposed exchange of bonds belonging to an estate of which I am trustee.

Referring to earlier statement, I informed you that the estate holds 4% bonds of the Railroad Company. We are asked to exchange these at the present time for Telephone Company Collateral Trust 4% bonds, through the house of, who claim that these telephone bonds are legal for Massachusetts Savings Banks, and exchange can be made with about 6% margin in our favor.

Where such a margin is offered I understand there must be a reason for it; but am unable to find any unfavorable expression in regard to the Telephone Company. Kindly let me know if you recommend this exchange, which as you will notice carries the same rate of interest in both cases.

Thanking you for an early reply, I remain,

Reply.

Dear Sir:—

Your favor of the 17th received, and will state that the Telephone Collateral Trust

4's should be absolutely good, and you are fully justified in making the change although, owing to the different maturities, there is not so much difference in the ultimate yield of the two bonds as you would naturally think.

Another reason why the telephone bonds sell for less money is because there are many more of them on the market than there are of the Railroad bonds; moreover additional telephone bonds will probably be issued within a short time.

The bond house which you mention, however, is absolutely honorable and if the Boston office advises this by letter, you had better follow their advice.

Very truly yours,

ROGER W. BABSON,

President.

Advice from Banks.

Of course, from this, one must not think that many bond dealers or brokerage houses resort to unscrupulous practices. There is probably no class of business which is operated by men with a higher standard of integrity than the bond business. Not only are these interested in the sale of investment securities, but they are doing splendid work in aiding the average man to systematically save and provide for his later years. It would be hard to give the best rule to follow in distinguishing between honest and dishonest firms, excepting perhaps the one to inquire of the local bank.

Therefore, when approached to make an exchange of securities by a house or individual of whose

integrity an investor is not absolutely certain, it is well to make inquiries of the local banks. If the bank advises the exchange it is usually well to follow their advice; otherwise it is best either not to make the exchange or else to tell the firm or individual that no change is desired, but cash will be considered. After getting the cash offer, the investor can then have the local bank obtain bids from two or three other sources and sell to the highest bidder. After receiving this cash, he can wait until fundamental business conditions indicate that prices are at their lowest point and then conservatively invest it as he would his original savings in well-known, high-grade, seasoned securities.

CHAPTER XVII.

DEFAULTED BONDS.

AN investor should not expect more than 4-1/2% on an investment, unless he renders some distinct service other than simply loaning the money. The simplest way for the investor to attempt to obtain more than this normal rate of interest is by assuming some risk, and therefore, the greater the risk the greater the reward for the lucky ones. For this reason, 6% bonds and 7% preferred stocks are offered to investors at about par. In such cases, the investor is receiving about 4-1/2% for the legitimate use of his money, the same as he would receive on an investment which is absolutely safe, and is given in addition the balance of from 1-1/2% to 2-1/2% for the risk he is taking in buying unseasoned or unmarketable securities. Able bankers, however, do not believe in the investor attempting to obtain a high rate of interest by assuming any amount of risk, and they claim it is a great mistake for the investor to attempt to obtain a high rate of interest by buying such unseasoned bonds and preferred stocks.

The real legitimate method of obtaining more than 4-1/2% with safety is by making a systematic study of investments and purchasing only during panics and other periods of business distress when money is in great demand and securities are being sold at a discount. A man who buys during a panic performs a distinct service, and should re-

ceive a profit for said service in addition to a normal rate of interest. In other words, the investor should either be satisfied with about 4-1/2%, or else he should study fundamental conditions and confine his investing only to times of panic, which occur only about once in two or three years.

How Service Can Otherwise be Rendered.

There is, however, one additional method by which an investor may be morally entitled to a higher rate of interest, and this is in connection with the purchase of defaulted bonds. As the readers know, about 3% of the corporation bond issues which are offered to the public, default; that is, the corporations issuing them are unable to pay the interest thereon at some period. Sometimes this default occurs within a year or two from the time they are issued, and in other instances not for several years. Usually, the default comes within the first five years, and it is owing to this that bonds are referred to as "seasoned" bonds, meaning bonds which have been issued and the interest regularly paid thereon for over five years. Of course, when there is a default in the interest on the bonds, the stock, theoretically, is of no value, and legally, the stockholders should lose everything before there is a default in the bond interest. Unfortunately, owing to the fact that so many lawyers devote their energies to the miscarriage of justice rather than to the execution of justice, this usually is not the case. Nevertheless, for an illustration in this chapter, it may be assumed that when bonds

have defaulted, the stockholders have become tired of paying additional money and have relinquished control of the property, deciding either to take a total loss or else be satisfied with what the bondholders decide to do, after the bondholders have satisfied their own claims. Simultaneously with the stockholders relinquishing their claim in the corporation, the bondholders assume control; when bonds are in default, it may logically be assumed that the bondholders are controlling the property.

Trust Company Receipts.

If all the bonds of a corporation in default should be owned by one man, it would be necessary simply for this one man to assume control of the corporation, the same as the mortgagee takes possession of a house upon which he holds a mortgage, when the interest is in default. In practice, however, a bond issue of a given corporation is scattered among hundreds and perhaps thousands of individuals located in different parts of the world. Thus, it is necessary for some of the larger holders to unite and form a committee of about five persons who stand well in the community and are known to be men of ability and integrity. Such a committee usually works in harmony with the trust company which is trustee for the mortgage, for when bonds are originally issued, it is necessary for a trust company acting as a third party to stand between the corporation and these hundreds of different bondholders. Therefore, in the case of nearly all defaulted bonds, the bondholders' interests are rep-

resented by a committee composed of the largest bondholders or else their representatives.

In order that their action may be as unanimous as possible, this committee asks for a deposit of all the bonds of the issue, and the small investors with only one bond are therefore urged to deposit with the committee in order that the committee may represent all the bonds of the issue. Such a committee usually assumes no liability, but accepts the deposit of these bonds under a "trust agreement" or "deposit agreement" as it is usually called, which shows just what rights the bondholders still hold, what the committee is to attempt to do, and what position the trust company assumes in the matter. "Trust Company" is here mentioned, because the committee as individuals will not assume the responsibility of holding all of these bonds, but insists that some trust company shall be the depository. Usually, the same trust company is selected as depository as is the trustee for the company, but this is not a necessity.

It will therefore be seen that the four parties to a defaulted bond issue are: first, the corporation which for practical purposes need not be considered; secondly, the bondholder who has money invested; third, the bondholders' committee which is protecting the bondholders, and fourth, the trust company which holds the bonds or which stands between the bondholders and the bondholders' committee. (Of course, if this trust company is a different one from the trust company which is trustee for the mortgage, there are five parties, for

in such a case there would be two trust companies interested in the reorganization.)

Of course, when the bondholder deposits his bonds with the trust company for the benefit of the committee, such a bondholder wishes some receipt, and therefore the trust company, on behalf of the committee, issues a receipt, and the following gives a typical example:

CERTIFICATE OF DEPOSIT

No.		\$
	of	
		Face Value of Bonds.

..... RAILROAD COMPANY
First Mortgage Refunding 4% Gold Bonds

issued under the Mortgage dated April 1, 1901, to the Trust Company of the City of New York as Trustee, with coupon due July 1, 1910, and all subsequent coupons thereto attached, deposited under an Agreement dated May 4, 1910, between depositors of the above mentioned Bonds and, ..., ..., ..., and, the Committee named in said Agreement

The Trust Company of
New York, as Depository,

hereby certified that it has received from First Mortgage Refunding 4% Gold Bonds of Railroad Company at the par value of
..... dollars

with coupons thereto attached as above stated; said Bonds have been deposited subject to the terms and conditions of the above mentioned Agreement dated May 4, 1910. The holder thereof by receiving this certificate consents to and is bound by the provisions of said Agreement, and is entitled to receive all of the securities, benefits and advantages to which the depositor is or may become entitled pursuant to the conditions of said Agreement; or the said Bonds so deposited together with the coupons thereto attached may be returned to or withdrawn by the holder thereof in accordance with the terms and provisions of said Agreement upon presentation and surrender of this certificate duly endorsed.

This certificate is transferable only on the books kept for the purpose at the office of the Trust Company of New York, upon surrender of this certificate duly endorsed and thereupon a new certificate will be issued to the transferee in exchange therefor.

THE TRUST COMPANY OF NEW YORK,
 New York, by _____ Depository,
 _____ Vice Pres.
 _____ Sec'y.

This receipt is especially mentioned because, when purchasing a defaulted bond, the investor really does not purchase a bond but rather one of these receipts. Therefore, theoretically the receipts for defaulted bonds are being considered in this chapter rather than defaulted bonds proper.

Why These Receipts Usually Sell Below Their Value.

As above suggested it is often the case that an investor may render a service by purchasing these receipts. This will entitle the investor to a profit in addition to the interest on his money and, if this is the case, there must be some reason therefor. Briefly, the reason why this is possible is because the ordinary individual does not like to hold these receipts, and consequently disposes of them for less than their intrinsic value. There are various reasons why the average investor prefers to take a loss on defaulted securities rather than to hold the receipts, and among these reasons are the following:

- (1) Such receipts do not carry interest in the

ordinary sense of the word. Until a bond defaults it is sold "with interest." That is to say, if you purchase on April 1st, a \$1,000 4% bond, with interest payable January and July 1, at 101, you will pay \$1,010 for the face of the bond and in addition three months accrued interest at 4%, which will be \$10 making \$1,020 in all. If, however, this bond should default, it would no longer be sold "and interest." Thus so long as one holds such a defaulted bond, or the receipt issued therefor, he apparently is losing interest. In other words, assume that the above mentioned 4% bond should default and the price drop to 80 and continue at this figure. After this happened, if one should desire to sell the bond or purchase more, it would make no difference what month he purchased it or sold it, there would be no accrued interest to pay, the total amount being simply \$800 "flat."

As the money is worth at least 4%, it is apparent that the holder of a \$1,000 defaulted bond is losing at least \$40 or 4% every year that he holds it. Whether or not this is true, it is apparent that if the price of these certificates is to remain fixed at said 80 for two or three years, while the property is being reorganized, it certainly would be advisable for the holder to sell his certificate immediately after default and then buy them in again shortly before the reorganization plans are announced. He then could have his money on deposit in some bank in the meantime and draw his 4% interest, thus saving 4% a year. Of course, as will be shown later, it does not always work out this way; but in

many instances it does, and in all instances the holder of a receipt is obliged to forego receiving the interest each six months, which may be a hardship for many and makes these receipts unpopular.

(2) Another reason why the average investor does not like to hold receipts for defaulted bonds is the fact that in many reorganizations an assessment is called for. This usually is because when the bondholders are obliged to take over the operation of a corporation, they find the treasury devoid of working capital. As working capital is absolutely necessary, the bondholders through receivers who represent them, apply to the court for permission to issue receiver's certificates, in order to raise money for necessary working capital, repairs, etc. Although receivers' certificates are classed among the very best of investments, combining as they usually do absolute security, a short time maturity and a fair rate of interest, yet they are dreaded by bondholders. The reason for this is because receivers' certificates take precedence to bond issues and must be paid before the bondholders receive anything for themselves. Now, in order to pay these certificates, the money can usually be raised only through an assessment. Of course, these assessments are usually levied on the stockholders if possible, the bondholders saying to the stockholders: "If you will pay these certificates and furnish additional money to put the company on a sound financial basis, we will continue to hold our bonds and will return to you the control of the company." In such a case, although the old stock is

entirely wiped out, yet new stock is given to the stockholders who will bear their proportion of the assessment.

Unfortunately, there are many instances when the stockholders will not pay this assessment and prefer to take a total loss than to bother with the corporation any further. In such a case the bondholders are obliged to assess themselves. This is usually done by wiping out the old bond issue and giving new bonds to such bondholders as will help on the assessment. A small proportion of bonds, preferred stock, or some other security is given to such bondholders who will not help on the assessment. Consequently, the investors purchasing receipts for defaulted bonds must always be prepared to pay an assessment if the same is necessary. Certainly, unless one is willing to pay an assessment and obtain all the advantages of the reorganization, he is surely apt to make a loss. Nobody likes to pay an assessment. Consequently, this fear is another reason why defaulted bonds are unpopular and usually sell below their intrinsic value.

(3) These receipts are usually not payable to bearer and must be forwarded to the trust company for transfer whenever they are bought or sold. In the instance of certain receipts listed on the New York Stock Exchange, this is not the case as such receipts are often payable to bearer; but very few are listed on any exchange. Although this is really no objection and is no more of an inconvenience than the transferring of stock, yet for some

reason or other people do not like to hold these receipts which are not payable to bearer. Possibly they do not care to have it known that they are holders of defaulted bonds; but whatever the reason, there is a prejudice among investors against these receipts. They are also rather unsatisfactory collateral. Owing to the possibility of assessment and the non-payment of interest, banks prefer not to loan upon them. This tends to prevent speculation in the receipts and greatly limits their market. Unfortunately, speculation tends to increase prices rather than to lower them. Consequently, a security which is not put up for speculative purposes often sells for less than its intrinsic value.

Of course, there are also other reasons why these receipts are not popular, some of these reasons being real, although psychological. For instance, very few securities are considered at the fair average intrinsic value. It is human nature either to be hopeful or to be fearful. Consequently, most securities are purchased with the hope of increased prosperity, or else are sold for fear of disaster. We are loath to calmly consider a proposition on its merits, and either we are enthusiastic on its merits, or pessimistic. As long as a bond pays interest regularly, we all tend to talk enthusiastically and think well of it; but as soon as it defaults, we all tend to become pessimistic and think evil of it.

(4) There is also another reason why this is so, namely; that it is much more difficult to obtain information relative to companies in hands of receivers than is the case with going concerns. The

bondholders' committees usually operate on the "star chamber" principle and are very loath to give the bondholders information which is their due. This is absolutely wrong, for certainly the members of a bondholders' committee are purely the servants of the holders of bonds deposited therewith, and it seems absolutely wrong that the committee members should be so secretive. Of course, there may be instances where for special reasons their work must be strictly confidential; but in the majority of instances, an entirely different reason is often at the bottom of this secretiveness. This reason may often be attributed to the fact that the members of the bondholders' committee and their special friends wish to take advantage, for personal profit, of their inside information. There is no doubt that there have been many instances where the bondholders' committee have gone about with long faces and pessimistic talk, depressing the price of the bonds in order that they might pick them up at low prices for their personal profit. On the other hand, there are instances when they have found that it was impossible to work out a satisfactory and profitable reorganization, where these committees have given out rosy interviews and have quietly disposed of their own bonds before announcing their decision. Therefore, these acts of bondholders' committees and especially their secretiveness have been potent factors in causing defaulted securities to sell below their intrinsic value.

The Advantages of Defaulted Bonds.

Nevertheless, the saying that every cloud has a silver lining applies to defaulted bonds and the receipts issued therefor. That is, the very fact that the various disadvantages above mentioned cause the bonds to sell below their intrinsic value often make such bonds and their receipts attractive to investors who have courage and individuality. Some of these advantages may be briefly summarized as follows:—

(1) Take the question of interest for instance. Although no interest is regularly paid upon such receipts, yet if the property is good for anything more than the face value of the bonds, the bondholders can collect this interest at the time of the reorganization. For instance: there is an issue upon which no interest has been paid for four years; but it is an underlying lien to two junior issues, and when the reorganization is finally completed, either the stockholders or the holders of these junior issues will be compelled to raise the money to pay the face value of these first mortgage bonds in full, plus interest. Therefore, if one has a well-secured first mortgage bond, he is ultimately sure of his interest, although he may be obliged to wait two or three years. On the other hand, in order that this statement may not be misunderstood, it may be said that this can be counted upon with certainty only in the case of well-secured underlying issues.

(2) As stated above, one of the objections to

these receipts is that the holders thereof are liable to assessment. The fact that these assessments are so unpopular makes it necessary to give an exceedingly liberal inducement to holders in order that the assessment may be paid. The result of this is that these investors who have the courage to pay the assessment are handsomely rewarded therefor. The shrewdest investors are continually seeking opportunities for the payment of assessments, knowing that in no other way is it possible to obtain so much for one's money. Moreover, in the case of underlying bonds and other bonds well secured, it is usually unnecessary even to pay this assessment. If the committee representing the underlying bonds insist on its rights, it usually forces the holders of the junior bonds to pay an assessment; while if the holders of the junior bonds have sufficient "sand" and are not also stockholders, they can usually force the stockholders to pay this assessment. Therefore, in the minds of the ablest investors, the assessment feature is no disadvantage whatsoever.

(3) As stated above, these receipts are unpopular because they do not bear interest, because they must be returned to the trust company to be transferred, and because for other reasons, they are so unlike regular bonds upon which interest is being regularly paid. In this connection one question may be asked, namely: *Even at its worst, why is the receipt for a defaulted bond any worse than a certificate for a non-dividend paying stock—either preferred or common?* Unwise investors

often sell receipts for defaulted bonds because of prejudice and then invest the same money in non-dividend paying stocks. There is no advantage which a certificate for non-dividend paying stock has over a receipt for a defaulted bond; while there are many advantages that the receipt for a defaulted bond has over the certificate for a stock which is not yet paying a dividend. Therefore, the facts regarding defaulted bonds, which the ordinary investor considers disadvantages and which cause these bonds to sell below this intrinsic value, are in many cases not disadvantages for the man with independence, courage, patience and who is willing to make a study of investments.

Great Profits in Defaulted Bond Issues.

Thus for men with courage and independence, there are possibilities of great profit in the studying of defaulted bond issues. In fact, for the man who is willing to spend money on obtaining engineers' reports, legal opinions and other data, there is no other method whereby a fortune can be amassed so quickly and legitimately as through the purchase of defaulted bond issues. Furthermore, this is not mere opinion, but a statement to which nearly every reorganization bears witness. It makes little difference whether you study the reorganization of our great railroad systems, such as the Union Pacific, Northern Pacific, and the Atchison, where the securities which were received for a \$10 assessment were later worth \$100 to \$200, or whether you consider the reorganization of our

great industrials like the General Electric, which has been a gold mine ever since the readjustment of its capitalization in the 90's. Study our traction lines, electric light plants, and all public utilities which have been reorganized. It would be hard, if not impossible, to find a single instance where the holder of an underlying bond *who has stayed by the reorganization* is not as well or better off today. Of course, this does not apply to holders of stock—either preferred or common. It does not always apply to holders of junior liens, but it should be remembered that only underlying liens are the most advisable to purchase.

It will be well, however, to repeat that the intelligent purchase of well-secured, defaulted bonds at a time when the holders thereof are becoming discouraged, offers a great opportunity for service and consequent profit. Of course, this service must be performed with intelligence and be based on fact, and not on either optimistic or pessimistic brokers' rumors. When an investor is assured of the facts and purchases on the honest advice of one who has made a thorough and impartial study of the situation, he has a real opportunity of using his money in the performance of a real service. This service consists of purchasing these bonds when the holders thereof are discouraged, panic stricken and fearful of assessments, disaster or total loss. This is a time when the able, independent investor can perform a real service by stepping into the breach

and checking the "panic" in said securities and for this real service he will, when the reorganization is completed, be paid a handsome profit in addition to a fair rate of interest on the money which he has invested.

CHAPTER XVIII.

COPPER STOCKS.

ALTHOUGH today Boston is not exactly the home of coppers, yet it was until a few years ago, and is still to a limited extent. As our Pacific railroads were originally financed from Boston, so has the large copper industry of our nation been financed from the same city. On the other hand, as Boston has now lost her grip on the transcontinental situation, it having passed to New York in conjunction with the great telephone industry, so the new copper properties are now being financed from New York rather than from Boston.

The transcontinentals were financed from Boston because that was the investing center of the country fifty years ago, and whether railroad bonds or government bonds were to be sold, they were first offered to New England people through established Boston firms. The telephone industry was started in Boston probably because Mr. Bell, the inventor, was a New England man. The first company was organized in a little office in Boston. The huge profits made by these early investors in telephone stocks were sufficient to cause them to hold the industry for many years and continue to raise funds for its great expansion until it became so tremendously large that it was of necessity a national rather than a New England enterprise.

In the same way, the copper industry took root

in Boston probably on account of the great success of the Calumet & Hecla mine. This was one of the early Lake properties, capitalized at a par value of \$25 a share, and originally sold to investors for considerably less. As it happened, many Boston investors bought this stock at from \$10 to \$25 a share, from which price it gradually soared to \$1,000 a share and for a considerable time has sold for from \$500 to \$800. When one realizes that a person who invested only \$10,000 in this stock at \$10 a share could have sold out a few years ago for \$1,000,000 in cash, and that on these 1000 shares, bought at \$10 a share, he some years received a dividend of \$100,000 (or 400%), is there any wonder that coppers should have become a favorite investment for Boston people?

Unfortunately, however, there has been only one "Calumet & Hecla," and although Boston people have made millions and millions of dollars from the Calumet & Hecla stock, yet many of them have probably lost in other mines and therefore are no better off today than if they had never invested in the famous Hecla Mine. This therefore, brings us to the main point to be emphasized, which is: TO INVEST IN ONE OR TWO COPPER MINES IS ONE OF THE RANKEST KINDS OF SPECULATION AND SOMETHING THAT SHOULD BE SHUNNED BY EVERY INVESTOR. Only as one invests in several producing mines does his purchase more nearly approach an investment, and the speculative element become gradually reduced. At the same time, however,

the possibility of profit decreases as the possibility of loss decreases, and finally, the investor is no better off than if he should confine his purchases to established dividend-paying, railroad stocks which he could buy without any trouble and worry.

Four Classes of Stocks.

It is well, however, for the investor to understand the different kinds of copper stocks, for there is a vast difference in those being offered. There are good copper stocks, poor copper stocks, medium copper stocks and copper stocks which are a disgrace for anyone to own. Briefly these may be divided as follows, but changes constantly occur.

1. *Producers and dividend payers.*

This class includes such stocks as Calumet & Hecla, Amalgamated, Anaconda, Chino Copper, Calumet & Arizona, Nevada Consolidated, Old Dominion, Utah Copper, etc. These are all established mines which are not only producers, but are producing a sufficient profit so that dividends may be paid on the stock, and they are the only kind of stocks which conservative bankers ever recommend.

2. *Producers and non-dividend payers.*

There is a larger number of these than of the first mentioned class and the following are a few examples: Braden, Allouez, Inspiration Consolidated, Franklin, and Nason Valley. These represent established mines which are producing copper, but either they are not sufficiently developed or else are not producing the copper cheap enough to be able to sell it for a profit. It would not be

wise to state that these stocks should never be purchased, as at any time something may be found to make them valuable, and if the price of copper sufficiently increases, many producing mines not paying a dividend at the present time would then be able to pay one. The stocks in the first mentioned class are practically sure of some profit, as it is almost beyond probability that the price of copper will for many years be less than what it costs these mines to produce it, and future changes in the price of copper will simply increase or decrease the profit.

In the case of this second class of stocks, however, when the price of copper is low, many of them make no profit whatever, which is a very much more serious matter. This is due to the fact that—strange as it may seem—it is more expensive to shut down a mine than to operate it. Consequently there are many mines today which are being operated at no profit, and yet are becoming less valuable every day as the copper is removed therefrom. This again brings us to another point which should be emphasized, namely, that *the dividends received from mines are not real earnings as are the dividends received from a railroad or industrial corporation, but these copper dividends are simply small portions of the principal, which are gradually being returned to the stockholder.* Therefore, it is very much better to purchase only the very best mining stocks in order that some dividend may be received as long as the mine is being operated, whatever the price of the metal.

3. *The third class of stocks are what are known as "Developments."*

These are stocks of companies which are sure to become producers and which all hope will some day be dividend payers, but are not yet sufficiently opened for actual production. In some cases, the underground workings are complete, but the company is waiting for the completion of a smelter, or for the completion of a railroad, or some other adjunct to the property. Possibly stocks like Braden Copper could be classed in this list. Such companies are approaching production but are not yet real producers and may or may never be dividend payers. However, it is known that such companies have vast quantities of copper and it is only a question of getting out this copper at a low enough cost.

This class is generally known on the street as "comers," and the average stock broker will tell you that there is more profit in buying these "coming properties" than there is in buying the older and better known properties. It is probably true that there are greater profits to be made in stocks of this third class; but it also is very true that there is a very much greater opportunity for loss. Therefore, stocks of the first or second above mentioned classes are preferable to those of this third class, except in two or three special instances. Investors will be interested in noting the following stocks listed on the Boston Stock Exchange, the majority of which come under these last two classes:

Mining Companies.

Adventure	Dominion
Allouez	Osceola
Arizona Com.	Parrot
Butte Coalition	Quincy
Calumet & Arizona	Santa Fé
Calumet & Hecla	Shannon
Copper Range	Shattuck-Arizona
Daly-West	Superior
Franklin	Tamarack
Granby	Trinity
Mayflower	U. S. Smelting
Michigan	Utah Con.
Mohawk	Utah Copper
Nipissing	Winona
North Butte	Wolverine
Old Colony	

4. *The fourth class is known as "Prospects."*

In most cases the assets of such companies consist mostly of land, although in many instances considerable development work has been done. In no case, however, is it known just how much ore the mine contains and in many cases it is not known for a certainty whether or not there is any ore, and surely it is not known how much it will cost to mine the ore. Usually the only argument or reason the owners have for calling the prospect a mine is that the property is near some land which is now being worked as a mine. Certainly the purchase of such stocks is pure gambling. Yet today the majority of mining stocks belong to this fourth class. It is simply gambling in its most elementary form to buy stocks in this group, and why the United States government will permit the circulation of advertisements of such mining stocks and at

the same time prohibit the mailing of lottery tickets is unexplainable.

Mind you, there is no harm for any man to buy a piece of land and spend money in ascertaining whether or not it contains ore. This is an honorable undertaking and such a man is performing a distinct service to our nation in endeavoring to discover its wealth and provide labor for our people. Such a man, however, would purchase the land not on the basis that it contains ore, but on a proper basis corresponding to the risk involved. If the land contains ore, he makes a handsome profit which he deserves; but if it does not contain ore, he simply loses the money which he spends on the development, while he still has the land and the experience. The inexperienced investor, however, who purchases the stock of a company owning such a prospect, from some advertisement in a newspaper, buys it on the assumption that the land contains ore. He is assessed further for development work, and if, as in nineteen cases out of twenty, there is no ore, his savings are absolutely lost. The following is another list of stocks clipped from a Boston paper, some of which are probably good, but most of which belong to this fourth class. Considering the much higher prices that some of these stocks were originally sold for, it is figured roughly that at these present prices, they must show a total loss to the purchaser of nearly \$100,000,000. Moreover, most of the purchasers of such stocks are poor people who cannot afford to lose the money.

Boston Curb Quotations.

Ahmeek	McKinley-Cobalt
Bay State Gas	Mexican Metals
\$1000 Berry Spring 6s	Mines Co. of America
Boston Ely	Nevada-Douglas
Calveras	Nevada-Utah
Corbin	Porcupine Gold Mining
Davis Daly	Porcupine Northern
First National Copper	Raven
Goldfield Cons.	Rhode Island Coal
Kruger	Ray Central
Lion Hill	South Lake
La Rose	Yukon Gold
Majestic	

Four Kinds of Mines.

As there are four classes of stocks, there are also four groups of mines, although there is absolutely no relation between the four sub-divisions first above mentioned and the four now about to be outlined. When stocks are discussed they are divided as to their progress and record; but when mines are discussed they are divided as to the kind of ore which they contain. Briefly, three groups are based upon three varieties of copper ore, and the fourth group might be entitled "Miscellaneous." This latter group will not be described here.

The kind of copper to be discovered first was what is known as the "native lake" copper. This has been found in great quantities around Lake Superior, especially in Michigan; and the Calumet & Hecla is the best illustration of this kind of a mine. The copper is found practically in a raw state, almost identically as it later appears in the form of manufactured wire or on the bottom of a

wash boiler. It is usually necessary only to break up the rock, take out this metal, stamp it and it is ready for use. This is the form of copper used by the Indians hundreds of years ago, and when first discovered, the mining was very simple. As years have gone on, however, the mining has become more difficult, it being necessary to go to great depths in order to find the metal. Many people believe that the day of Lake mining is nearly over and some Boston men strongly advise against the purchase of any Lake stocks. Many of these stocks have declined in price, such as, for instance, Tamarack, which at one time was considered a prosperous mine, has dropped from \$363 to \$20 per share. Calumet & Hecla stock which once sold for \$1000 a share later sold for \$400. Another well-known "Lake" stock is Copper Range, but an unfavorable report has recently come out even on this property. What the real facts may be relative to these Lake coppers is of course uncertain; their value, however, is not a thing of the past by any means, and many of them have a long and profitable future.

The second step in the development of the copper industry came through the use of what is commonly known as "sulphide ores." This sulphide group of mines is centered about Butte, Montana. Although similar mines are found in various parts of the country, including Arizona, yet the Butte camp leads this class as the Michigan mines lead the native-copper group. These sulphide ores are found in veins; but the novice would never dream, from looking at the dull ore, that it contained cop-

per. To get this copper out it is necessary to smelt the ore, or subject it to a chemical process. The Amalgamated mines are one of the best illustrations of this group, but there are several examples of good paying properties being operated along these lines. In fact, the bulk of the production of copper probably comes today from this character of mining.

This third group is known as the "porphyry group." For many years it has been known that land in certain parts of this country contained a small percentage of copper; but until recently it has never been thought economically possible to extract the copper because only such a very small portion of ore can be obtained from a ton of material. Chemists and metallurgists have gradually perfected the process, and now great mountains are being torn away with steam shovels and the copper extracted. Probably the most prominent example in this country today of a mine of this porphyry group is that of the Utah Copper Company located near Salt Lake City. Other mines such as Miami, Chino and Inspiration are being developed along this same line. The theoretical production of such mines is tremendous; but their appetite is so great and they use so many thousands of tons of material each day that it is questionable whether or not they will be very long lived.

In short, it was the developing of these great porphyry, low-grade, steam-shovel propositions which is disturbing the copper market and which in the past, has caused copper to fall from

twenty-four cents to twelve cents per pound. Whether the success of these porphyry mines will long continue is a question that only the future can decide. There is no doubt that these low-grade mines are producing ore today and are producing it very cheaply, the Utah Copper Company's reported cost said to be less than nine cents per pound; but because they or any other company can produce copper at such a price today is no reason why they can expect to do so ten or twenty years hence. However, the owners of porphyry mines claim that the Michigan mines will be abandoned in twenty years and that native copper will be a thing of the past; while the owners of the Michigan mines claim that the low-grade porphyry mines will soon be exhausted and that the native Lake coppers will be mined for scores of years to come.

Whichever of the three groups are longest lived, this discussion certainly should illustrate to the investor the great risk there is in all copper stocks; for, when doctors disagree, what hope is there for the poor patient! Of course, many shrewd Boston bankers claim that an investor can protect himself by purchasing a moderate amount of each of the three groups, this is true, provided it is done in conjunction with a careful study of fundamental business conditions. However, it must not be supposed that copper stocks or any mining stocks can be purchased as good railroad stocks can be purchased, locked up in a safe deposit box, and forgotten; but rather should be purchased only with the idea of some time selling again.

This brings us to the bottom of the entire question, namely, *when an investor takes a dividend from a copper or other mining stock it is like taking apples out of a barrel.* Although the average investor thinks that he is spending his "dividend," he is in reality spending his principal. For this reason mining stocks should yield about nine per cent to compare favorably with a railroad stock yielding five per cent. When the investor receives his \$9 a year on an investment of \$100, he should religiously set aside \$4 for a sinking fund as his original investment is theoretically worth about this much less. Of course some few companies offset this great shrinkage by purchasing additional ore lands, or buying water powers, or by investing in the stocks of other companies; but the average company does not do this, paying out as they go all profits for dividends.

This chapter has not entered into any technicalities, and in fact, has omitted several features, yet certain statements connected with the purchase of copper stocks are self evident. In applying these statements, the investor may use the following four rules:

- (1) Purchase the stocks of producing, and if possible, dividend paying mines.

- (2) Divide the investment equally among the mines of the above mentioned groups.

- (3) Insist upon a yield which will provide for laying aside each year a proper proportion of the dividends for a sinking fund, or else purchase the stocks only of companies which, of themselves, set

Copper and

The following is a list of the principal mines of copper in the State of New York, with the amount of copper produced in each year from 1861 to 1870. The mines are arranged in alphabetical order, and the amount of copper produced is given in pounds.

1861 1862 1863 1864 1865 1866 1867 1868 1869 1870



1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913

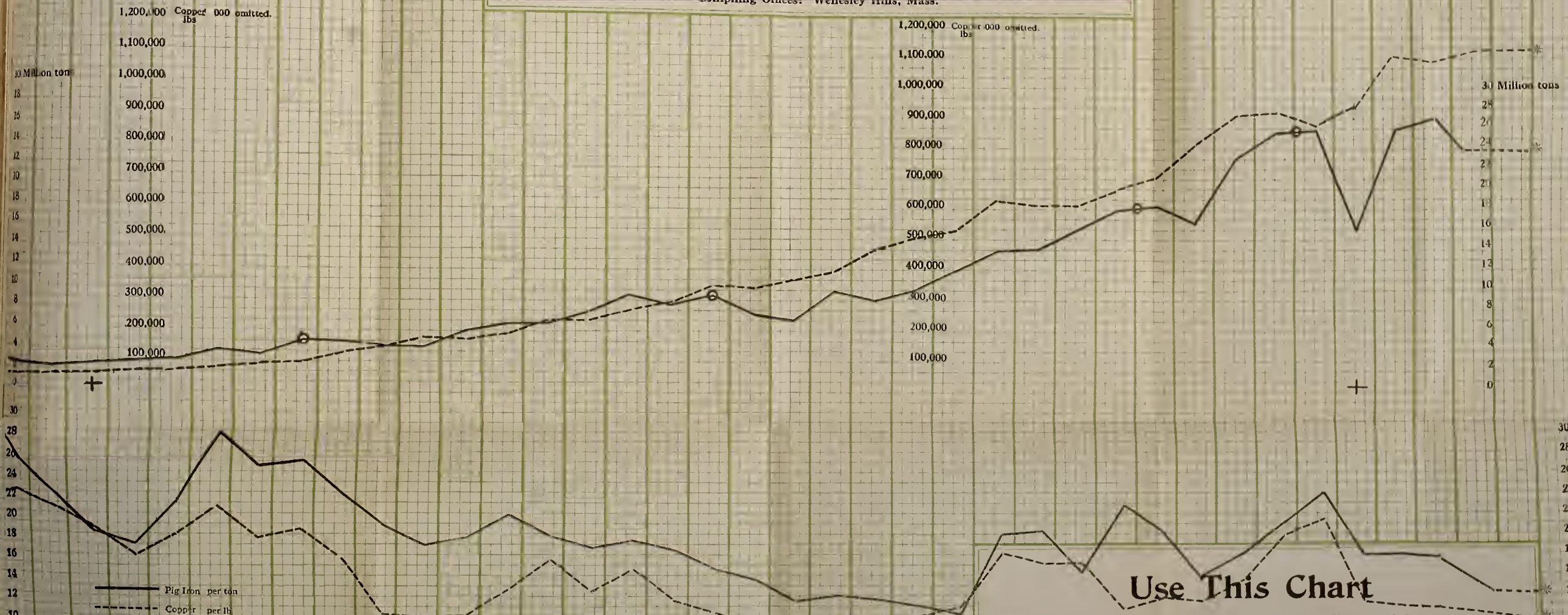
Copper and Pig Iron 1874-1912

In this chart the production of copper by years is shown by the upper dotted line, while the solid line gives the production of pig iron. The lower solid line represents the average wholesale price of pig iron and the lower broken line the average wholesale price of electrolytic copper.

These plots are interesting for two purposes: first, for showing that the demand for copper follows rather than coincides with the demand for pig iron; secondly, that although an increase in the production of pig iron, after a period of depression, signifies that a period of prosperity may be expected to immediately follow, yet too great a production of either pig iron or copper is significant of a panic to follow. This plot, however, also shows that the production of pig iron alone cannot be depended upon as a barometer, but must be considered only in conjunction with all the other subjects.

The copper production plot is based on the figures given annually in the official report of the Geological Survey for calendar years, and includes all grades and kinds of copper mined in the United States. Plotted and published in connection with Babson's Reports on Fundamental Business Conditions.

Compiling Offices: Wellesley Hills, Mass.



Use This Chart

when determining whether to buy or sell securities.

* The stars at the extreme right represent the current year, assuming that the current year's figures, as shown by tables under X on the large Desk Sheet, total approximately the same as the previous year's figures for the corresponding months. If not, said star should be raised (or lowered) one square for each increase (or decrease) of about 4% in said current year's figures. Thus by referring to the Desk Sheet one may at any time quickly make this plot show the complete current year based on the latest figures obtainable.

aside a proper proportion of their earnings for the acquirement of additional property.

(4) Purchase stocks when the price of copper is at or near its lowest point. Of course, to decide this latter question one should be thoroughly familiar with business conditions and much more of a student than is the ordinary investor. The annexed chart, clearly shows both the price and production of copper during the last thirty-five years, and when studied in connection with the price of iron and other commodities, it will be found very helpful.

CHAPTER XIX.

MINING SECURITIES.

JOSH was a prospector of the type so commonly seen in Arizona, the land of sand and sagebrush. He was a tall, slim creature of the soil with skin as tough as leather, but with a big bounding heart. Originally, Josh was a boss miner working at a fair salary in one of the well-known mines; but as he became more prosperous he mixed with the temptations of Bisbee, Tuscon and other mining centers and, unfortunately, became addicted to drink, losing his good position. The rest of his life has been similar to that of the average prospector; work for a few months was only to be followed by dissipation for a month or six weeks, and then a period of repentance and discouragement. At the end of one of these periods, some good friend for whom he formerly worked, "grubstaked" him and sent him into the mountains to prospect.

Practically, this was simply a matter of charity because only one prospector in a hundred makes good. Josh returned from one of these prospecting excursions lasting a couple of months with some samples of ore, claiming he had "almost struck it rich" (which is the common report returned by most prospectors as they come in). The ore was thrown into a box, and he was told that he had done first-rate. Josh, however, was not quieted so easily, but kept returning, stating that he could

purchase from some Indians the entire claim from which this sample came, for only a few hundred dollars; and urged the purchase. The twenty-four years spent in the hills of Arizona had, however, made one of his benefactors very wary of these "rich strikes," so he refused to pay any attention to the earnest pleadings, and Josh went to work again on day wages.

Readers may imagine the surprise caused, when about two years later, a new company was formed by some of the best men in Boston, and capitalized for \$2,500,000 for the purpose of developing this little piece of property which Josh could have purchased for a few hundred dollars. At first this stock sold for about \$5.00 per share; but suddenly, a great pocket of very rich ore was discovered, and in a night—so to speak—the price of the stock soared to \$25.00 per share, from which price it gradually climbed to nearly \$200 per share. Moreover, this stock is to-day traded in on the Boston Stock Exchange and is even now considered one of the best copper purchases.

Mining Stocks vs Mining Properties.

The object in telling this story is twofold. First, to explain to the readers the difference between buying stocks and buying land; and second, to show how even the very ablest engineers are "fooled" as to actual conditions.

Everybody is somewhat acquainted with mining stocks,—at least all are who read the Sunday papers, which seem to be the leading market place

for these valueless promotion offerings. Many readers have doubtless received through the mail alluring circulars offering mining stock from \$1.00 to \$5.00 per share which, according to the circular, "may soon become worth several hundred dollars per share." Or, to quote from one of these circulars: "If you will now buy 1000 shares at \$1.00 per share, when this stock becomes worth \$100 per share (the average price of most stocks) your \$1000 will become \$100,000 and your income each year will be several times your original investment." Of course, in reading the advertisement the small investor entirely forgets the fact that the average stock selling at \$100 per share has a par value of \$100 and not \$1.00, as in the case of the mining stock in question. Such an advertisement is a fraud on its face.

It is, however, very difficult to suppress these advertisements, for they are prepared by expert advertisement writers with the advice of the ablest lawyers and with the knowledge that the advertisements will be scrutinized by Post Office authorities. Certainly, anything that said authorities can "nail" will bar the advertisements from the mail. The use of the simple word "may" instead of the word "will" in the above advertisement renders the Post Office authorities powerless, and the advertisement still succeeds in separating the small investor from his money.

There are various reasons why the ablest bankers advise against the purchase of such stocks; the more important is that owing to the many men on

the ground fully acquainted with the property, these stocks, when there is any reasonable chance of their ever becoming of value, are taken up long before they ever reach New York, Philadelphia or Boston. The people of Arizona are not poor, and there is just as much money per capita in the State of Arizona looking for an investment as in Boston, Philadelphia, New York or Chicago. The Arizona man, however, does not make money from the purchase of stocks, but rather from the purchase of the land itself. If you were to buy a farm, you would not capitalize it and endeavor to sell the stock, but would simply work it as a private proposition, raising crops, paying the expenses and retaining the profits.

If you should discover a small piece of land in Arizona, or in any other state, which you believed could produce ore, and which would require only the digging of a shaft—as a mill nearby can often be used for treating the ore,—why should you want to capitalize it and give the public such a good thing? Why would you not develop and work it yourself the same as you would the farm? Well, this is the way the Arizona man enters mining. He stakes out a claim, agrees to spend at least \$100 a year on development, and holds the title to that claim, gradually working it as you would work the farm. If he is a man of wealth, he may have a large force of men and expensive machinery; but if he is poor, he will have only two or three working for him, *but he will make proportionately as much*. As he digs this ore out of the ground, he

hauls it to a mill and sells it either before or after it has been treated.

How the Best Engineers Fail.

Even in buying the land, one does not eliminate the possibility for loss; for, as has often been said: "Almost as much money has been put into the ground as has ever been taken out of it." Out of possibly twenty men who have devoted their lives to the development of mining properties, not more than two have anything left to show for their efforts. The competition for these claims is very keen; large companies, such as the Phelps-Dodge interests, the Cole-Ryan interests and others, have engineers continually in the field seeking new propositions. Moreover, it is necessary to spend considerable money to break out any claim before one knows whether or not he is to receive anything in payment for his labors. Therefore, even for the man who deals only in land and is located on the ground, it is a hard up-hill fight amidst keen competition, subject to the greatest discouragement. Of course, this works two ways. In some years, the engineers of the great mining and smelting interests get all the prizes, while the prospectors and independent miners get none; but in other years, these great engineers themselves fail while the "plums" come to the small miners.

One of the large interests—if not the largest—in the world, the Phelps-Dodge, owns and has owned ever since it was a raw prospect, a mine known as the Copper Queen. This mine was re-

garded by them as the one mine of the Bisbee camp in Cochise County, Arizona, and it turned into the coffers of the Company millions of dollars annually. Some plain native prospectors located claims adjoining the great Copper Queen; and what is more, they offered to sell them to the great Phelps-Dodge interests for a trifling amount. The Company engineers looked at them, and "nothing there," was the verdict.

A little later these same prospectors disposed of the claim and a great new mining company well-known throughout the world is the result. Already it has paid out in dividends over ten million dollars, and the property of the Company is now said to be as valuable as the Copper Queen itself. Still the Phelps-Dodge people looked far afield, and other prospectors made locations adjoining on yet another side of the bonanza. Again the great engineers investigated the matter and shook their heads. "Nothing there," was the reply again. But, another—now well-known—mine immediately opened up a great ore body, blocking out some fifteen million dollars' worth. One other mine which those same experts are said to have looked at and declared "worthless" is the United Verde. It was offered later to a gentleman in Montana, and taken. The United Verde is today recognized as one of the world's great mines and enriches him by millions yearly. The idea that the prospects of Cripple Creek would ever develop into big producers was pooh-poohed by men at the head of the profession. But Cripple Creek has poured out

gold by the hundreds of millions of dollars since that day, and is still turning its golden stream into the channels of commerce.

Such mistakes perhaps do not happen often ; but it is well to say "perhaps," for who knows what the future may unfold ? Prospectors, years ago, passed by many a mine, the ear marks of which they did not see in the light of their limited information. The world progresses. The engineer and the prospector are keeping abreast of the times, and it is only reasonable to suppose that the greatest and most valuable opportunities of all are today lying idle and undiscovered, which could probably be obtained for only the small filing fee of a few dollars.

Is there any formula by which the average man can separate the wheat from the chaff when it comes to the selection of mining stocks ? The question has been asked a thousand and one times in the past, and the answer given has been most perfunctory and unsatisfactory. So the question is yet before the public and there to stay until such a formula is produced. If a broker is consulted on the subject, he will be able to give you some advice it is true, but that advice will not be first hand, and though honest enough, must of necessity be frequently misleading.

Like every other class of stock, mining shares may be divided into two broad classes, investments and speculations. Whether the man in the street is moved by the spirit of speculation, or a desire to secure a safe investment, he naturally likes to know

something about the mine. Investigation will then lead to still further investigation, and he will not go far into that most interesting subject before he realizes that woven into a business severely practical are many strands of romance.

The first inquiry on the subject is addressed most likely to a broker, who, if an investment is desired, will secure without difficulty a record of any mining company since the time it came before the public. Indeed, all the large, statistical organizations issue handbooks for the guidance of their customers, showing the high and low figures of the stock for a number of years, the rate of dividend, and miscellaneous data, such as the amount of capitalization, bond issues if any, output, etc.

With the information thus secured as a starting point, the most natural question that arises is: "What is a reasonable rate of interest to expect on a mining stock?" The interrogation is a fair one, and whether addressed to a broker or a mine operator calls for a straight-forward answer. The broker will doubtless say that it is difficult to give figures, and will quote such stocks as the following: Anaconda, which at 40 pays 5% or more, Calumet and Arizona at 48 has paid 8.33% and Kerr Lake which at 7 has paid 28% or more. These three dividend payers are selected as being different types of mining stocks, and good examples of how widely dividends vary. The broker will tell you this, or the information can be secured from a manual; but, having it, the seeker has only just started on his quest. Thus early will he part com-

pany with the broker for a while, and carry on his researches independently.

If he knows a mining engineer, so much the better ; otherwise, he may find out the main points about the game by the exercise of his own common sense. To begin with, he will realize that a mining proposition stands in a class by itself. Long ago, nature placed just so much ore in that particular spot known as the mine. At the time the mine commenced operations, there was a certain, if unknown, quantity. From that day the quantity has grown less, and will keep on decreasing until the original quantity of ore is exhausted and the mine closes down. The investor, therefore, will see that his interest must be large enough to provide a sinking fund ; and all this must be calculated on the probable life of the mine.

The same standards by which a farming or a manufacturing investment may be judged are not applicable to a mining investment. A farmer may earn 8% interest on his capital, and with care, his property may increase in value. A manufacturer may earn 8% on his investments and if he keeps up his machinery, his business may be as valuable ten years, or even twenty years hence ; but a mine, after each dividend is paid, is that much nearer to its end.

It is well known among mining men that the average life of a gold or silver mine is under ten years. There are exceptions to this rule, of course. Great, low grade mines like the Homestake or the Treadwell, in all probability will be producing

twenty-five or thirty-five years hence; but it is to the average mine that the law of averages applies. The exceptional mines are in a class by themselves, and can be judged accordingly.

Gold and Silver Mines.

Granting that the life of a certain gold or silver mine is to be ten years, in order to pay back principal and a reasonable rate of interest, dividends of at least 16% should be distributed. Mines of which statistics have been most accurately kept in New York and Boston offer many inducements to the investor, but too much care cannot be taken in the matter of selection, for stocks in not a few instances have been inflated out of all reason.

As with gold and silver mines, so it is with copper and such mines, providing they have a good lease of life, 8% or even 10% may be regarded as only moderate returns.

These are merely samples of some general principles to be considered. They may be utterly at variance with the opinions of many authorities, and attention may be drawn to the stock of such companies as the Amalgamated Copper Co., now paying in the neighborhood of 4% on its market value. To this the investigator is justified in remarking that the atmosphere of speculation has given some stocks a higher market price than their returns warrant. The man who puts up hard earned money on an investment is well within the bounds of reason if, when offered a stock paying

only 7% dividends, he asks, "Has it thirty years life ahead of it?"

Now leaving the investment side of the subject and touching upon the purely speculative, the question of the formula presents itself again, and while admittedly it cannot be answered off-hand, at least some fundamental principles may be considered which will materially assist the speculator who asks no more than a "square deal."

New Mines.

For purely speculative purposes, new issues are the most likely to be in demand. New issues have frequently made fortunes for the venturesome, and will ever be an attraction. It will be remembered that in the mine's early history, "Calumet and Arizona" sold for \$5. Not so very long afterwards, as the life of mines is reckoned, it sold for \$198. It later declined to around the \$45 mark. Calumet and Hecla sold at the start around \$25, and it has sold as high as \$1000. Take the porphyry mines, under which heading are included Utah Copper, Miami, Ray Consolidated and Nevada Consolidated; these mines have all made money for those who bought the stocks in the early stages. But with them as they stand today may it not with reason be questioned if the milk has not been extracted from the cocoanut, and if they will not be fully occupied in keeping up their present positions?

The new ones coming, what of them? If the house bringing out the issue bears a good reputa-

tion on the "Street," and its previous issues have made good, then there is a strong chance in favor of the last one. If, on the contrary, the firm has brought out many and all of them are yet in embryo, or worse still, have not made good, then the advice of an old Comstock miner, may be followed. "If you are a poor man, have nothing to do with it, and if you be rich, leave it alone."

Scientific management, card systems and the like are important details in the business world, but it is impossible to eliminate the human factor, and where the human factor is, there is romance. Corporations are said to have no souls, but before corporations controlled, human factor was an issue. Again, before fresh mines are discovered and put before the public to invest or speculate in, as the case may be, the human factor, the prospector and the miner might well be taken into consideration. They live today in the West as different from the pen pictures made of them in fiction as it is possible to be. The mining engineer with a technical training that puts him "foremost in the files of time," stands side by side with the prospector on the bare rocks of the desert, and for the moment, they are on an equal footing.

While you are looking over these pages, a prospect is being considered. That mineral is there, both engineer and contractor agree; but does it go down and will it pay? These are questions that only work can tell. Neither can see six inches below the surface. The mining engineer goes on his way. He deals in accomplished facts, and not

surmises like the prospects. The prospector works the claim. A pit is sunk, and the ore gives out. Another one is sunk with the same result, and then the prospector goes on his way. Time has been lost, labor lost, and money lost, but what of that? He firmly believes that he is fated to strike it.

Reverse the picture. The first pit had ore in it down to the bottom. A second is sunk with a similar result. Then a third or more, and a system of mineralization uncovered. Now comes the work of sinking the shaft, and that costs money. But the mine is a winner, and the prospector carefully selects the best of his ore, sacks it and ships it to the nearest custom smelter. With the returns from his shipment he operates, and slowly compared with what can be done with capital, he develops a mine. In time, the engineer returns to examine it. The system of mineralization having been uncovered and the ore shoots located, he is able to see beneath the surface, and can work out his plans. The mine now fetches a price out of all proportion to what the prospector would have taken for it years previous when the two stood on the cropping together. Here begins the history of the mine so far as the public is concerned, and the rest is for the broker and the investor.

Of course, at the best, one may still be fooled. A young man who graduated as a mining engineer from Columbia University studied at the best institutions of Europe and went to Arizona with probably the finest preparation that any young man ever had. In order to make doubly sure of his

position, he agreed with his father to spend a whole year in looking about for prospects before investing a dollar. During the year, he travelled throughout most of the mining camps of Arizona and Utah and sifted his prospects down to three. On the very day his first year came to an end, he visited the one of these three prospects which appeared to him as the most attractive.

This was much more than a prospect as ore had been extracted from this mine for several months, and it was paying splendidly.

For some days before the young engineer called, the owner of this mine had been getting rather nervous from fear that he had passed through the body of ore. He was just in this uncertain mood when the young engineer called down the shaft: "Mr. ———, I am now prepared to give you what I suggested for this property. If you will take it now, I am prepared to give you a draft on New York at once. Otherwise, I shall leave tonight for another camp and trade with someone else." At that moment the thought came to the miner *to taste of the water*. If the water should be clear and sweet, he would know that he had passed through the body of ore; for otherwise, the water would be bitter and sulphurous. Thereupon he immediately stooped down, brought up a little water in the palm of his hand, tasted of it, found it clear as crystal, and called to the young man: "I accept your offer." The papers were exchanged at the bank of the town nearby, the young man invested thousands of dollars in extending the shaft

and on further development; *but he never found paying ore.*

It, therefore, will be seen that to beat a mining game is a hard proposition. If you wish to buy stocks, you have not a chance to come in until two or three previous interests have already taken their profits, and even then with the promoters and brokers who are well versed in every art of manipulation and exaggeration against you, furthermore, if you go to the mining country and purchase the land outright, you have the shrewdest miners trained with years of hard experience to encounter.

Therefore, it is not only a safer proposition, *but one giving greater profit in the end*, to confine one's purchases to simply the highest grade "listed" stocks of proven value, buying them when fundamental statistics show that the country is entering a period of depression, and selling them two or three years later when fundamental statistics indicate that we are entering a period of prosperity. In this way the investor has his money always in conservative, established, dividend-paying investments, or else in cash. This gives him a sure rate of interest and once in two or three years a good profit in addition. But the idea of buying untried and non-dividend paying mining stocks with a hope that "some day" they will become of great value is risky. Of course, as has been shown, there are cases where great profits have been made in mining; but for every one of these, several can be

named where fortunes have been lost. In brief, there is *no* "short sure road to wealth" whatever; the only road being the one which is founded on knowledge obtained by a careful study of the underlying principles of investments.

CHAPTER XX.

THE MONEY MARKET AND INVESTMENT PRICES.

THE president of a large New York bank was once asked by a person having a large sum to loan, "How much is money worth?" The banker replied by asking, "How much is a horse worth?" In retort the business man immediately answered, "A horse is worth what you can get for him." "Well," said the banker, "that's what money is worth." Now, this simple story is the fundamental principle underlying the money market, for in a given locality with fixed conditions and fixed collateral or credit, money rates are dependent upon the supply and demand.

People who live in small cities or towns probably pay a fixed rate of interest year in and year out, averaging the so-called legal rate of 6%. Although there are certain wealthy and conservative sections of the country where the demand for money is fairly low and the rate only 5%, there are sections in the Northwest and the South where the demand greatly exceeds the supply, and the normal rate greatly increases. In all places, however, the above rule applies, as money rates, when all other conditions are fixed, are ultimately dependent upon supply and demand. These "other conditions" include such features as the security offered, the credit of the borrower, general confidence, the length of time the loan is to run and various other considerations.

This explanation is given primarily in order that the investor who is paying his local bank 6% or more may not be dissatisfied when he sees in the newspaper that money is being loaned in New York and other large cities at from 2 to 4%. If a New York bank were to loan you money, it would demand as high a rate—if not higher—than your local banks demand. When the New York banks loan at the low, quoted rates, they receive collateral or security which insures that the note will be paid at the moment it matures, or if not paid, they can sell the loan to some other bank, and thus obtain the money any time desired. However, when a merchant in a small town borrows from his local bank, that bank will not sell him out if he does not pay his notes when they mature. In other words, the loans which the average country bank makes to local customers are, in a way, permanent loans, and such banks should always receive a rate almost double what New York banks receive on collateral loans, which truly are “quick assets.”

There are two ways which banks have for making money; one is by paying from two to four per cent on deposits and loaning the money at from five to six per cent, thus making a small difference thereon. This method is that which is used by the majority of country banks today, and is the reason why so many of these banks are just struggling along, the president working for a few hundred dollars a year and the bank's clerks depriving themselves in order that the bank may eke out a small dividend. It takes no brains to pay a certain per

cent on deposits and loan the same money for a little more; and in any work that does not require brains, there is a tremendous amount of competition.

On the other hand, there are a few banks which make money in a much more intelligent and justifiable manner. These banks are practically merchants dealing in money as a commodity, storing up money when it is cheap, as the iceman stores up ice when it is plentiful, and then loaning out this money for the purchase of raw materials or high-grade securities when money is in great demand, and merchants and manufacturers are willing to sacrifice almost anything in order to obtain it. Such banks perform a great service to the community. They perform the same function to business that the governor on an engine performs in regulating its speed, while the average country bankers who do not study fundamental conditions are practically parasites on the community.

Now, these country banks simply have use for *time* money and are interested simply in loaning it for as high a rate as possible at all times. It is the great city bank operated with judgment and along the lines above indicated, which uses *call* rates. When money is a drug on the market, these great city institutions loan it on call at a low rate, knowing that the time is coming when it will be in great demand, and therefore they can best serve the business man by having the money ready for his instant use. On the other hand, when money is high and the financial situation is being cleaned up through

failures and drastic liquidations, these great banks, knowing that the trouble is over, then loan their money on time and obtain a handsome rate, together with special commissions for so doing.

Rates in Large Cities.

As most readers are probably more familiar with the money rates of their local banks than they wish they were, we will not dwell further on this point, but will explain in a few words the statement of the money market as it appears each day in the large daily papers of the country.

"Current quoted rates, bank clearings, etc., follow:

	Boston	New York
Call loans.....	4-1/2 @ 5	5 @ 5-1/2
Time money—		
Sixty and ninety days.....	4	3-3/4
Four and six months	4 @ 4-1/2	3-3/4 @ 4
Year money.....	4-3/8 @ 4-1/2	4-3/8 @ 4-1/2
Commercial paper	4 @ 4-1/2	4 @ 4-1/2
Corporation notes	3-3/4	3-3/4
	Today	Year ago
Bar silver in New York.....	.55	.54-1/8
Mexican dollars	.46-1/2	.46

AT THE CLEARING HOUSE.

New York funds	par
Exchanges, Boston	\$30,769,592.00
Year ago today	26,982,729.00
Balances	2,140,750.00
Sub-treasury credit	18,590.00
Exchanges, New York	310,643,209.00
Year ago today	292,424,128.00
Balances	18,316,548.00
Sub-treasury credit	503,726.00
New York banks lost on Sub-treasury operations yesterday	1,456,000.00
Net loss since Friday	6,546,000.00

Foreign Exchange.

In the foreign exchange market today, sterling was easy and Continentals were practically unchanged. Afternoon-rates, actual business between bankers, as follows: Sterling—Cables, \$4.8650; demand, \$4.8605 @ \$4.8610; sixty days, \$4.8260 @ \$4.8280; Commercial bills, \$4.8160 @ \$4.8180.

Francs, 5.20-5/8, less 5-64; marks, 95, plus 1-64; guilders 40-1/4, plus 1-32."

It will be noticed that the first reference is to "call" rates, and it will be seen that on said day call rates are a little higher in New York than in Boston. Now, when a man borrows on call, he borrows with the understanding that he must either pay his loan any moment the bank desires the money, or else he must accept any change in rate which the bank desires to make at any time. That is to say, the rate on call loans may be changed by the bank any day, and the borrower must pay either the said rate or his loan. During the greater part of 1911, call rates were lower in New York than in Boston, owing to the fact that during the larger part of the year, small banks all over the country had a large amount of idle money in the New York banks. Owing to the Fall and Christmas business, these banks withdrew money from New York during December, which made it necessary for the New York banks to have some of their call loans paid in order to get the money to send west. To have said loans paid these banks chose the method of marking up their rates. As comparatively few

country banks outside of New England carry accounts in Boston, Boston banks were not affected in this way, and therefore, the Boston rate for call money was not advanced as much.

The next item refers to "time" rates. Time money refers to notes which are given for a definite period at a definite rate. When one borrows from a bank for sixty days, he agrees to keep the money for sixty days, and the bank agrees to let the rate remain fixed for sixty days. In the case of time money the bank cannot advance the rate during the life of the note; but, on the other hand, the borrower cannot pay the note before it is due or have the advantage of any lower rate in case money should decline. In the case of call money, however, although the bank has the privilege of calling and advancing the rate at any time, yet the borrower also has the privilege of paying up at any time, or insisting on a reduction in rate in case money becomes easier.

The first three items under time money show the rate for different periods and illustrate very well why the country bank must have a higher rate for a "permanent loan" than the large city bank demands for active loans. (It will be seen that the large city bank demands about $1\frac{1}{2}$ of 1% more for year money than for sixty and ninety day money.) The last two items of the above clipping refer to commercial paper and corporation notes and suggest that corporation notes stand higher than ordinary business paper, as the banks are discounting these corporation notes at $3\frac{3}{4}\%$, while they are

asking 4 to 4-1/2% on the business paper and collateral loans.

Another interesting feature in connection with the above is that call money sometimes demands a higher rate than time money. By watching the relation between two rates, one may usually ascertain how the large bankers feel as to the course of money rates. When the rate for time money is less than the rate for call money on the same collateral and in the same city, one may usually be certain that the bankers of that city feel that rates are to continue easy and, therefore, prefer to loan money for long periods rather than to loan on call. On the other hand, when the rate for call money is considerably less than the rate for time money, as was the case during the summer of 1911, one may rest assured that the bankers feel that the rate for time money is abnormally low, and consequently that it is better to loan on call at a low rate than to tie up funds for from four to six months at a slightly higher rate.

A Study of History.

We find that there is a constant and intimate connection between monetary conditions and the prices of stocks and bonds. No market has continued indefinitely upward in the face of high money rates, and the only cure for strained monetary conditions is a recession in business or an area below the country's line of normal growth.

Ten high-grade investment stocks which the Babson Statistical Organization's office daily records

and which is a list extending back practically to the Civil War, sold in 1890 at an average high price of about \$141 per share. At that time, the percentage of loans to deposits was around 95%, while the percentage of specie to loans was about 20%. In the latter part of that year, however, the loans advanced to 102% of deposits, while specie declined to about 18% of loans. Moreover, this was accompanied—which is the point to be emphasized—by a decline in the average price of these stocks to \$98 per share and a still further decline in 1891 to about \$95 per share. Furthermore, from 1891 to 1893 almost every marked fluctuation in money conditions was reflected in stock market prices, and in 1893 the proportion of loans to deposits rose to 109%, while the ratio of specie to loans declined to 13%, accompanied by a drop in the average price of our ten stocks from \$135 in 1892 to \$98.

This strange condition of affairs, however, was immediately corrected by an area of rest developing below the nation's line of normal growth, and in the next year or two, loans to deposits fell to 80% and specie rose to 30%, while the average high price of these ten shares increased to \$128.

Although the situation greatly improved during the next one or two years, yet conditions were not cured, and like a sick patient getting up too soon, business men unfamiliar with fundamental conditions, not being content to let the area of depression sufficiently develop and mature, forced business too hard, and in 1896 sent the proportion of loans to deposits up to 102%, while the ratio of

specie to deposits fell to 10%. Certainly, this patient was quickly sent back to bed again, for conditions were immediately checked by the crisis of 1896 when the average price of these ten investment stocks dropped to \$100. After this, affairs were allowed to take their natural course and the area of depression was allowed to naturally come to completion; and in July, 1898, loans were only 83% of deposits, while the banks held specie to the amount of 30% of deposits, and the average price of these securities followed the example by advancing from \$106 to \$133.

In following conditions from 1900 to 1902, we find another area of prosperity developing above the country's line of normal growth with a corresponding increase in loans to deposits and a decrease in specie to loans. In September, 1902, the proportion of loans to deposits was 99%, and the proportion of specie to loans about 17%, while our ten investment stocks reached an average high price of about \$200 per share.

To the student of monetary conditions, it was self-evident that this spelled trouble in capital letters, and such was the case, for in 1903 we had our "rich man's panic," when these conditions were readjusted and another area of rest began to develop below the line of normal growth, accompanied by a drop in the average price of our ten stocks to about \$150 per share. During this period of rest, the proportion of loans to deposits was reduced to 90%, while the ratio of specie to loans increased to 25%, accompanied by steadily advanc-

ing prices of securities until an average high price of over \$200 per share was reached in January 1906.

It is a shame that at that time more business men were not students of fundamental conditions, for if we had been willing to hold things in check, keeping down loans, building up our specie reserve and being content with a normal growth, the panic of 1907 could have been avoided; but, unfortunately, this is not the American way of doing things. It is our nature to either have the throttle wide open and run at break-neck speed, or else have the throttle closed tightly and be at almost a standstill. For instance, in January, 1907, the percentage of loans to deposits had been increased to about 102%, while the relation of specie to loans had been cut down to about 17%, while our ten investment stocks still sold at an average high price of about \$180 per share. Moreover, a large area of prosperity had been developing above the nation's line of normal growth—an area approximately equal to the preceding areas of prosperity and depression—and nothing else could happen but a drastic liquidation in order to relieve these strained monetary conditions. What happened is well known to all. Our New York banks were strained almost to the breaking point, and in fact, several of them did break. Large commercial institutions were forced into bankruptcy, and some of our great railroads were placed in the hands of receivers, while the average price of our ten stocks fell to \$119 per share.

Again the readjustment process began, and as an area was developed below the nation's line of normal growth, the ratio of loans to deposits decreased to 95%, while the ratio of specie to loans was increased to 22%, accompanied by an uplift in the prices of securities, and our ten stocks sold at an average price of over \$190 per share in August, 1909. Since that date loans again rapidly increased to about 100% of deposits, while the ratio of specie to loans dropped to 19%, and stocks had a very steady decline after August, 1909. It is not very encouraging when one realizes that all these foreign disturbances to business could have been avoided if we had been willing to study the money market and other fundamental factors upon which all manufacturing and commercial progress ultimately depends.

Fundamental Principles.

From the above facts, certain fundamental principles can be deduced which should be of value to every reader in diagnosing future conditions. It is very evident that the first thing to note in the Bank Statement—as published both by the Comptroller of the Currency five times a year, covering all national banks, and by the Clearing House of New York once a week, covering New York banks—is these two most important items, viz.; (1) the relation of loans to deposits, and (2) the relation of specie to loans. If we find that loans are in excess of deposits and the percentage of specie small, it is usually safe to assume that fundamentally the

monetary situation is unsound. On the other hand, if the percentage of loans to deposits is small and that of specie to loans is large, we may safely assume that our monetary conditions are fundamentally safe.

In other words, an increase in loans and discounts with no corresponding increase in cash usually reflects unsound monetary conditions, even if the advance in loans and discounts is fully offset by deposits. There are various reasons for these, but the simplest reason is that there are two classes of deposits; namely, the *real* deposit and the *credit* deposit. When a miner in California takes gold from the earth and carries it to his bank for deposit, that man is creating a real deposit, and the same illustration applies if the man who takes iron, copper, wheat or cotton from the ground deposits it or its equivalent. Such men are really wealth producers and their deposits are well worthy the name. Unfortunately, however, such deposits often form a very small proportion of the total, for by far the greatest number of deposits are what are known as credit deposits. These may come from a merchant taking a blank piece of paper and making thereon a note for \$10,000. He then takes this note to the bank, discounts it for 5% and the bank gives him back \$9,750. The merchant then goes to another window of the same institution and deposits this money and the bank's deposits are immediately increased \$9,750 while the local board of trade of the city points to the city's increased bank deposits, forgetting all about the corresponding, increased loans.

Real deposits should be welcomed, and such are the deposits which cause our nation's line of normal growth to go upward; but these credit deposits—although necessary to a certain extent—are our curse and an ultimate source of great trouble. Let us hope that the time will come when our Comptroller of the Currency will demand that these credit deposits be separated so that we may know how the bank is increasing its deposits in a given community. In the meantime let every reader look not at the deposits but at the proportion of loans to deposits, and especially at the percentage of specie, which really means cash.

It will be seen that the money market bears a very intimate relation to the welfare of the merchant and the business man as well as the investor and speculator. In fact, the relations could be carried on much further than outlined as above. The changes in the New York Bank Statement from week to week are scanned by many anxious faces; the surplus reserve item, which shows how much reserve the banks hold in excess of their legal requirements, is a figure especially watched. As is known, a country bank must carry a reserve of 15%, of which 6% must be in cash and the balance on deposit with some reserve agency; banks in the sub-reserve cities must carry a reserve of 25%, of which 12-1/2% must be in cash and the balance on deposit in a central reserve city; while the banks in a central reserve city, such as New York, must carry 25% in cash in the vaults. If the total deposits of these New York National

Banks are \$1,000,000,000, they must carry \$250,000,000 in cash in their vaults. If they have \$260,000,000 in their vaults, the "surplus reserve" is said to be \$10,000,000; and as this surplus reserve decreases towards a vanishing point, it is a danger signal to all manufacturers, merchants and investors.

Of course, the time of year must be considered. Owing to the demand in the crop moving season, a low reserve in November is not so dangerous as a low reserve in the summer, for we know that the call for money is then probably at a maximum, which is not the case in the summer. A very careful study of the seasonable changes has been made by Professor Kemmerer of Cornell, and the results of his analysis and certain other features of the normal changes in money rates are described in Mr. Ralph May's book on Commercial Paper recently issued.

It often happens that certain periods of the year, such as January and July, call for the use of large sums in the payment of interest, dividends and other semi-annual disbursements. The first of April and October are also important dates in the money market; but as we understand the analyses further, we must allow for more and more exceptions; and as these exceptions increase, the value of cast iron rules diminishes. Such studies are somewhat like those of speculators who figure that the prices of stocks are always high at certain seasons of the year and low at other seasons. There is nothing in such doctrines. True it is that prices

have often been high early in January and July, owing to the large investment buying at these times; but every two or three years so many people figure on this and make their purchases a month or two earlier that there is a general decline in the market in January and July.

In short, there is nothing in such cast iron rules. As to what month or year money rates will be low or high nobody knows, and the man who attempts to predict by naming the month is making a pure guess. What we do know is, that *when money conditions are unsound, when credits are inflated and business unhealthy*, and a large area of inflation has developed above the nation's line of normal growth, then money will be scarce and will continue to be scarce until conditions are readjusted, loans liquidated and cash reserves strengthened, which can be accomplished only by the development of an area of rest, commonly known as a business depression. Therefore, investors are urged to study the relation of loans to deposits and the relation of specie or cash to loans.

This is not a popular doctrine to preach, and one may often be hailed as a "calamity howler" and a general pessimist for calling the attention of people to these cold and unpleasant facts, but nevertheless, they are facts, and our country's future business can be placed upon a permanent foundation only by an educational campaign along these lines. On the other hand, to quote from a book which has recently been written on Wall Street: "There is one great check to education in this direction;

great financiers, who are most conversant with actual conditions seldom find it expedient to point out the facts. Sometimes they themselves, wish to dispose of their holdings because of the obvious peril ahead and this process would not be facilitated by gloomy predictions. On the other hand, it is too often the case that these same gentlemen, finding it to their great advantage to disperse sunshine until their notes are sold, point assiduously to the excellent business of the present, and neglect to touch on the irresponsible future, which, after all, is the most important question for the investor or speculator."

CHAPTER XXI.

EFFECT OF GOLD PRODUCTION ON SECURITY PRICES.

IF, by some magic method, each yard-stick in the world should increase ten per cent in length during a night, it would be necessary for all merchants using yard-sticks in the sale of goods to increase their prices on the next morning ten per cent, *and yet this increase would mean no real increase in the cost of the goods to consumers.* Now, this illustrates the principle underlying the increase in prices due to the increased production of gold. Gold is the standard of value in the same way that the yard-stick is the standard of measurement, and as this standard of value is increased or decreased, prices must necessarily increase or decrease correspondingly. Therefore, if the investor will grasp this first fundamental principle, he will have learned the relation between the increase in gold production and the increase in merchandise prices. The following table shows the production of gold during the past fifty years, and in a broad way, the world's price movement for raw materials, merchandise and labor corresponds thereto. If freed from outside arbitrary and artificial factors, especially the impetus to speculation caused by increased gold production, prices of raw materials and merchandise should correspond to the changes in the value of gold—or rather credits—with great exactness.

Production of Gold in Fine Ounces.

Date	World	United States	Witwatersrand
1860	6,486,262	2,225,250	No report
1861	5,949,582	2,080,125	until
1862	5,949,582	1,896,300	1888
1863	5,949,582	1,935,000	
1864	5,949,582	2,230,087	
1865	5,949,582	2,574,759	
1866	6,270,086	2,588,062	
1867	6,270,086	2,502,196	
1868	6,270,086	2,322,000	
1869	6,270,086	2,394,362	
1870	6,270,086	2,418,750	
1871	5,591,014	2,104,312	
1872	5,591,014	1,741,500	
1873	4,653,675	1,741,500	
1874	4,390,031	1,620,122	
1875	4,716,563	1,619,009	
1876	5,016,488	1,931,575	
1877	5,512,196	2,268,662	
1878	5,761,114	2,477,109	
1879	5,262,174	1,881,787	
1880	5,148,880	1,741,500	
1881	4,983,742	1,678,612	
1882	4,934,086	1,572,187	
1883	4,614,588	1,451,250	
1884	4,921,169	1,489,950	
1885	5,245,572	1,538,325	
1886	5,135,679	1,693,125	
1887	5,116,861	1,596,375	
1888	5,330,775	1,604,841	190,266
1889	5,973,790	1,587,000	316,023
1890	5,749,306	1,588,880	407,750
1891	6,320,194	1,604,840	600,860
1892	7,094,266	1,597,098	1,001,818
1893	7,618,811	1,739,323	1,221,151
1894	8,764,362	1,910,813	1,637,773
1895	8,615,190	2,254,760	1,845,138
1896	9,783,914	2,568,132	1,857,071
1897	11,420,068	2,774,935	2,491,552
1898	13,877,806	3,118,398	3,562,813
1899	14,837,775	3,437,210	3,360,091
1900	12,315,135	3,829,897	395,385
1901	12,625,527	3,805,500	238,995
1902	14,354,680	3,870,000	1,691,525

Date	World	United States	Witwatersran
1903	15,852,620	3,560,000	2,859,479
1904	16,804,372	3,892,480	3,653,794
1905	18,396,451	4,265,742	4,706,433
1906	19,471,080	4,565,333	5,559,534
1907	19,977,260	4,374,827	6,220,227
1908	21,422,244	4,574,340	6,782,538
1909	21,965,111	4,821,701	7,039,136
1910	22,023,178	4,657,018	7,228,588
1911	22,327,088	4,687,053	7,896,802
1912	e22,494,375	4,520,719	8,753,568

e—estimated.

The Gold Theory as Applicable to the Cost of Living.

Of course, theoretically, the extension of our bank check system and the velocity with which our checks, bills, etc., circulate have the same effect to raise prices as increasing our gold supply. In fact, Prices or "P" as shown in the following formula, are dependent upon the factors which have been worked out by Prof. Irving Fisher, of Yale University, who has carried to completion some admirable work by Prof. Kemmerer of Cornell:

$$MV + M'V' = PT \quad \text{Therefore: } P = \frac{MV + M'V'}{T}$$

In this formula

M=Money in Circulation

V=Its Velocity in Circulation

M'=Deposits Subject to Check or "Credits"

V'=Their Velocity of Circulation or "Activity"

T =Volume of Trade

P =Price Level

which shows that as the factors M and M', or V and V' increase, P also increases and the price level

advances. As V is fairly constant, this means that the increased price level of today is practically due to the increase in money, M , (including gold, bank notes, etc.), to the increase in deposits subject to check, M' , and to the increased velocity of circulation of these deposits or V' . The resulting increase in $M'V'$ is largely reflected in the great increase in bank clearings.

Therefore, it will be seen that gold itself is only one factor and that an increase in credits of any form (that is, bank deposits subject to check), and especially an increase in the velocity of circulation of said moneys and credits, are also real factors. This last is very important for certainly one dollar circulating twenty times a year has the same effect as twenty dollars circulating only once a year or ten dollars circulating twice a year. As to Professor Fisher's correctness, there can be no doubt *so far as his reasoning refers to raising the general level of prices throughout the world.*

However, it should also be remembered that it is not only the raising of the prices of everything which is causing the present acute dissatisfaction, but rather the *abnormal increase* in the prices of certain necessities. In other words, as money gradually depreciates in value, there should be no social disturbance so long as wages, interest, rents and every commodity likewise increase correspondingly; but when wages do not correspondingly increase, there is dissatisfaction. In the same way, although Professor Fisher correctly diagnoses the causes of the present uplift of the world's price

level, yet the above "equation" may not satisfactorily explain the abnormal increase in the prices of a few necessities which have increased above the general price level. For the causes of inequality of such price increases, one may well refer to the writings of Professor Laughlin, of the University of Chicago. In brief, he states these to be as follows:

- (1) Credit and Prices
- (2) Changes in Expenses of Production
- (3) Tariffs and Taxation
- (4) Wages and Unionism
- (5) Changed Agricultural Conditions
- (6) Monopolies and "Trusts"
- (7) General Extravagance
- (8) Speculation

Why the Cost of Living Increases.

As labor is in reality a commodity, the same as cotton, iron and foodstuffs, the price of labor should increase proportionately with the price of raw materials and commodities. Therefore, theoretically, the clerk and laboring man need give no thought to the "Gold Theory" or the increased production of gold. "Theoretically" because, as gold abnormally increases in amount and consequently depreciates in value, and the prices of groceries, provisions and clothes increase, *so wages should increase in like proportion.* In other words, as long as the laboring man's wage increases correspondingly with the increase in the price of provisions,

dry goods, rent, etc., he is neither worse off nor better off than before.

Unfortunately, however, this is where there is a difference between theory and practice. Owing to the organization and central control in business, the price of groceries, meats, dry goods, etc. are immediately adjusted to any change in the standard of value,—namely, gold; but owing to the blindness of labor and the fact that many of our labor leaders so little understood fundamental economic principles, *the price of labor does not rise so rapidly as the price of commodities*. This especially applies to non-unionized labor; such as bookkeepers, clerks, school-teachers and other inside employees. Of course, in a way, labor is very highly organized; but it is organized on the same principle as the Russian Empire,—namely, through the autocratic and unintelligent efforts of its rulers. *To accomplish good results, something besides brute force, arbitrary rule and dynamite bombs is needed to accompany organization. Russia is infinitely more organized than America; but give us America in which to live.*

All members of labor organizations should insist on electing educated leaders, men who understand the fundamental principles of economics. It might be well for every Central Labor Union in our large cities to have classes in "Applied Economics" in order that they might understand certain fundamental principles relative to prices, wages and interests. This would also enable labor more often

to *row with the tide* instead of so often *bucking up against it*.

The reason why the capitalist and merchant are so often able to take advantage of the laboring man is simply because the capitalist has more brains. The capitalist raises his prices when fundamental conditions warrant it; while he lets his prices sag when he sees that lower prices are inevitable, rather than arbitrarily hold them up. Many labor organizations, not understanding these fundamental laws of trade and prices, miss the real opportunities of obtaining increased wages or better conditions, and very often strike at psychologically the wrong time. This is one reason why the price of labor has not always fluctuated correspondingly to the average price of commodities, and why so many salaried people are suffering today from the increased production of gold.

Effect on Interest Rates and Bonds.

Money, also, is a commodity the same as cotton, iron and foodstuffs. Consequently, if increased gold production increases the price of these latter commodities, it must also increase the rates of (or "rent" for) money; which means that interest rates must increase as gold production abnormally increases, and this is nothing more than right or fair. For instance, a woman who is living on her income, if obliged to pay more for her groceries, rent and clothes, must of necessity receive a higher rate of interest (or "rent") for her money. Therefore, interest rates must increase with these other com-

modities; as should also be the case with labor. It is, therefore, fair to assume that so long as gold continues to depreciate in value, the rate of interest must continue to increase proportionately—provided that the general confidence of the community and other factors remain the same. Granting that the rate of interest will gradually increase, it is a simple matter to think how this will affect the prices of bonds and fixed interest-bearing securities.

For instance, the 4% bonds of the average large city of the Central West are now selling approximately at par so as to yield investors 4% on their money; or, in the parlance of the trade, these municipal bonds are now said to be selling on a 4% basis. If the gold production, (and this possibly contemplates a large "IF"), is to continue to increase abnormally and interest rates for such loans increase from 4% to 4-1/2%, then these cities some years hence will be obliged to pay 4-1/2% on these bonds in order to sell them at par. This change will affect all of their issues so that all of the bonds of said cities will then be selling on a 4-1/2% basis. *If a bond is today selling at par and on a 4% basis, the same bond must sell below par in order to yield 4-1/2%.* This means that all bond issues of said cities now outstanding may some years hence be selling for less than they are today.

Whether or not this will happen depends on whether or not gold is to continue to increase abnormally and depreciate in value; and it is not

in the province of this article to discuss this subject. Therefore, readers must be careful to note that it is not stated that bonds are to decline in price. In fact, so far as the immediate future is concerned, certain high-grade bonds will probably tend to increase in price. Nevertheless, the thought underlying the theory is, that as the production of gold abnormally increases and thus depreciates in value, the price of commodities and interest rates should likewise increase; *and the price of bonds and other fixed interest-bearing securities should decrease.*

According to this, the price of preferred stocks should likewise decrease in value, although this, of course, includes only such preferred stocks as now pay their full dividend and are thoroughly established and distributed. So far as this applies to certain high-grade preferred stocks, such as Union Pacific Preferred, C. M. & St. Paul Preferred and similar, seasoned stocks, this doubtless may be true; and if bonds decline in price, these high-grade, low-yielding, preferred stocks should likewise decline in price. It will probably be a good many years, however, before this law applies to such preferred stocks as United States Steel Preferred, American Sugar & Refining Preferred, and other preferred stocks now yielding from 6% to 7%.

Effect on Common Stocks.

When it comes to a discussion of the effect of increased gold production on the prices of the com-

mon stocks of our leading railroads and industrials, two other factors must be considered: viz.,

(1) If, owing to abnormal gold production, the price of money is to increase, a railroad, which a few years ago when interest rates were low, issued some one-hundred year bonds at $3\frac{1}{2}\%$ interest—as did the New York Central & Hudson River Railroad Company—will have a distinct advantage over competitors, who must continue to borrow at high rates. Even now the New York Central must pay fully 1% more than it paid when the $3\frac{1}{2}\%$ bonds were issued in 1897; and if the ideas of the exponents of the “Gold Theory” are to become true, the time may arrive when corporations like the New York Central must issue 6% bonds in order to sell them at par. It therefore will be seen that if gold is to continue to depreciate in value, the investor should purchase only short time securities; *while railroads and industrial corporations should borrow for the longest time possible.*

For instance, assume that a railroad has \$100,000,000 of $3\frac{1}{2}\%$ bonds which it issued some years ago at par and also has \$100,000,000 of stock, upon which it now pays 5%. Assume that a competitive line, some years hence, must issue \$100,000,000 of bonds, but owing to the depreciation in gold, must issue them as $5\frac{1}{2}\%$ bonds instead of $3\frac{1}{2}\%$ bonds. If all other conditions are the same, and if both roads are now able to pay 5% on their stocks, the first mentioned road which already funded its debt at $3\frac{1}{2}\%$ should in years

to come be better able to pay 2% more on its \$100,000,000 of stock than the competitive road will be able to pay on its \$100,000,000 of stock. In other words, if gold continues to depreciate abnormally in value, although the stocks of both roads are now paying 5%, it is easy to imagine that the time will come when the first road with a funded debt on a 3-1/2% basis will pay 7%, while the second mentioned road with a funded debt on a 5-1/2% basis can still pay only 5%. *In view of this fact, it is the common stocks of our railroads which will be helped by this depreciation in gold; and such stocks—instead of declining in price as in the case of bonds—should increase in price, or at least hold their own.* This latter phrase is added because—according to the theory in the foregoing paragraph—if this depreciation takes place, the 7% stocks of the first mentioned road will then be selling for only what this 5% stock is selling for today, owing to the fact that all interest rates have increased correspondingly. In such a case, instead of the stock of the first mentioned road selling higher some years hence, this will simply hold its own; while the stock of the second mentioned road, which has not yet refunded its indebtedness at a low rate, will decline in price.

(2) Not only should the corporations which have already refunded their indebtedness at a low rate receive an increased income therefrom, but they should be allowed to increase their rates in accordance with the increase in everything else. If the prices of raw materials, manufactured goods,

wages and interest all increase, there is no reason why freight rates and passenger rates also should not be allowed to increase. As prices and prosperity increase, there is no reason why railroads should not be allowed to share this greater prosperity with others, and there is no doubt but what they must be to a certain extent. It is believed by some that increased gold production causes a certain abnormal, speculative atmosphere which takes the appearance of general increased prosperity and also increases gross earnings, which in turn should still further increase the value of corporation common stocks. Of course, theoretically, a very large amount—if not all of this increase—will be absorbed through operating expenses, as more must be paid for materials, more for labor, and more for real estate and every other item purchased. One cannot beat the laws governing this universe, all of which are fundamentally based on Newton's great law: "Action and reaction are equal."

Therefore, there is little doubt as to whether the advantage, which the enthusiastic supporters of the Gold Theory imagine, will come to the common stocks of our large railroads and other corporations. Law is law, and there is no way yet discovered whereby it is possible to obtain more than one hundred cents from one dollar. Although the purchaser of common stocks may see *his dividends increase* if gold depreciates in value, it is hard to see why the price of these stocks should materially increase, although they should hold up much better than certain preferred stocks. In other words, the

only advantage which a holder of common stocks can receive is that he will not be affected adversely if gold abnormally increases.

With certain industrials which have large supplies of raw materials, such as the United States Steel Corporation and some of the fertilizer companies, this is a different proposition. Rising prices for commodities may not interfere with the earning power of corporations which sell commodities, the prices of which are not limited by law. In fact, these corporations are, in many cases, gainers by this influence which tends to advance prices. (It may be added here that railroad companies which own valuable coal lands, etc. may find that in case of a great use in commodities, such property may be a great factor in increasing the price of their stocks. The railroad company, then, may be considered as preeminently a seller of transportation and has been so regarded herein). Most corporations, however, whose products are subject to regulation by law, such as traction, gas and electric lighting companies, etc., are subject to practically the same influences as those which operate against the prices of railroad stocks. Their cost of production advances easily and inevitably, and the selling price remains fixed, or advances with difficulty and under protest.

Something Else to Think About.

But what if, instead of gold abnormally increasing in production, it should abnormally decrease? This certainly is something worth thinking about.

Every mine has a bottom just as truly as every apple barrel. Thus the day is coming when the gold mine will become exhausted, for certain of the best mines are now approaching this point. Of course, new discoveries are being made in Alaska, Canada and other portions of the world; but is it not as legitimate to assume that fifty years hence the production of gold will be abnormally small, as that it will be abnormally great? Of course, the practical answer to this question, so far as we can be interested during our lifetime, depends upon whether or not the very low-grade ores can be used. As is known, the sea water contains a certain percentage of gold, and there are hundreds of thousands of acres of gold lands throughout our southern states that contain about one hundred cents to a ton in gold. At the present time, no ore can be treated that runs less than about two dollars per ton; but if some new method is discovered to extract these low-grade ores, then the production of gold will suddenly abnormally increase, which will be accompanied by an increase in the price of commodities, wages, rents and interest rates. This will be accompanied by a decrease in the prices of long-term bonds and certain preferred stocks, although the prices of railroad stocks may temporarily increase, while the prices of certain industrial shares of corporations not subject to government control and speculative commodities should increase.

On the other hand, if no method is ever discovered whereby these low-grade ores can be ex-

tracted at a profit and no further discoveries of consequence are made, then our present mines will gradually become exhausted and the production of gold will become abnormally small and the reverse will happen. In this case, the present holder of long-term bonds will have the advantage, over everybody else, for wages, commodities interest rates, etc. will all decline; while he will have a fixed income at a rate much above the market. In short, it is entirely possible to imagine that things may work around in this unexpected way, and that fifty years hence the New York Central & Hudson River Railroad Company and other roads may be able to issue bonds at 2-1/2% interest. In this case, the bondholder who now has these roads "tied up" at 3-1/2% for one hundred years will have the best part of the bargain. The following points are submitted which have been prepared by Mr. Byron W. Holt, who has probably made a more exhaustive study of this subject than any other person with the possible exceptions of Senator Burton of Ohio and Professor Irving Fisher, of Yale University.

1—Both the output and supply of gold are likely to increase rapidly for many years.

2—Therefore, the value of gold will depreciate as the quantity increases.

3—This depreciation will be measured by the rise in the average price level.

4—A rising price level, if long continued, is accompanied by rising or high interest rates.

5—High interest rates mean lower prices for bonds and all other long-time obligations drawing fixed rates of interest, dividends, or income.

6—Rising prices increase the cost of materials and of operation and tend to decrease the net profits of all concerns,

1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913

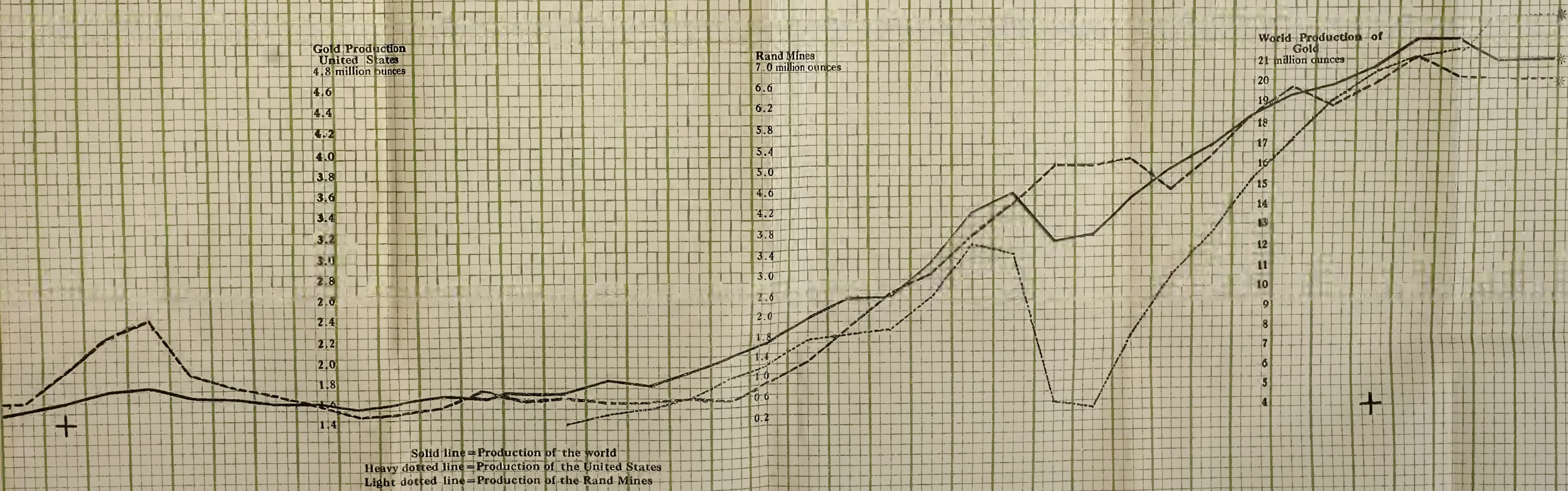
Production of Gold 1874=1912

The world's production of gold is here plotted in conjunction with the production of the United States and of the Witwatersrand district of South Africa, thus showing that the increase of the last twenty years is general and probably due to improved methods of production. Commodity prices and interest rates will be high unless the world's volume of business grows in proportion to the production of gold.

As the changes are very slight and complete returns can be obtained only annually, this chart is revised only once each year.

Plotted and published in connection with Babson's Reports on Fundamental Business Conditions

Compiling Offices: Wellesley Hills, Mass.



Use This Chart

when determining whether to extend or reduce loans.

* The stars at the extreme right represent the estimated production for the current year based upon the monthly reports (see Desk Sheet) from the Rand mines. Figures on gold movements and gold supply should be considered when determining money rates and the prices of bonds and other fixed interest-bearing securities.

the prices of whose products or services either cannot be advanced at all, or are not free to advance rapidly.

7—Rising prices tend to increase the net profits of all concerns that own their own sources of materials and supplies.

8—Rising prices of commodities tend to cause the prices of all tangible property to rise. This includes land, mines, forests, buildings and improvements.

9—Rising prices of commodities and property tend to increase the value of the securities of corporations holding commodities or property.

10—Rising prices and cost of living necessitates higher money wages, though the rise of wages will follow, at some distance, behind the rise of prices.

11—As rising prices do not mean increased profits to all concerns, many employers will not concede higher wages without strikes.

12—Rising prices and wages, therefore, mean dwindling profits and troublous times in many industries, with complete ruin as the final goal.

13—Because wages will not rise as fast or as much as prices and the cost of living, there will be dissatisfaction and unrest among wage and salary earners.

14—Rising prices of commodities and property encourage speculation in commodities, stocks and real estate and discourage honest industry.

15—Thus, rising prices, by diminishing the incomes of "safe" investments in "gilt-edge" bonds and stocks and by increasing the profits of speculators encourage extravagance, recklessness and thriftlessness.

16—As rising prices decrease the purchasing power of debts, and thus aid debtors at the expense of creditors, they discourage saving and thrift.

17—Rising prices, then by promoting speculation and extravagance, increase consumption, especially of luxuries, and therefore, stimulate production.

18—Rising prices result in what is real prosperity for many industries; but what is for a nation as a whole, artificial or sham prosperity—the result of marking up prices rather than increasing production.

19—With prices, wages, rates and industries always imperfectly adjusted to the ever depreciating value of gold, and with instability and uncertainty throughout the financial world, there cannot but be a great shifting around of values and of titles to property.

20—As this shifting is to the advantage of the debtors—the rich—and to the disadvantage of the creditors—the great

middle class—it results in rapidly concentrating wealth in the hands of a comparatively few.

21—For all of these reasons, a prolonged period of rapidly rising prices is reasonably certain to become a period of unrest, discontent, agitation, strikes, riots, rebellions and wars.

22—A rapidly depreciating standard of value then, if long continued, not only produces most important results in the financial, industrial and commercial world, but is likely to result in changes of great consequence in the political, social and religious world.

Some of the leading investors believe that the chances are about even as to whether the gold supply is to increase abnormally or whether it is to decrease abnormally, or in other words, that the conditions may so adjust themselves that the gold factor need not be seriously considered at the moment. Therefore, the investor had better forget all about the "Gold Theory" so far as it applies to investments and devote his energy to seeing that his wages are adjusted in accordance with the cost of rents, clothing and foodstuffs. The "Gold Theory," as a theory, is absolutely sound; but which way it is going to work nobody knows. It is perfectly safe to say: "If it is going to rain tomorrow, you should be sure to take a raincoat and umbrella." This is a sound theory, but what you really want to know is whether it is or is not going to rain tomorrow: and this nobody knows.

Edison on the Effects of the Increased Gold Production.

Very few people realize that Thomas A. Edison is one of the best informed men in America on the production of gold. Edison is known the world

over as America's greatest inventor, having probably done more to make practical use of electricity than any other living man. He is, however, a much broader man than one simply interested in electrical and mechanical investigations; in fact, he is wonderfully well informed on almost every subject.

Although during the last few years, he has had more time to give to general topics than previously, yet it is probably through his chemical research work that he has become interested in the "Gold Theory." He and his great organization in some of their experiments have come very close to discovering some process whereby gold may be profitably extracted from common clay. The tremendous importance of such a discovery has actually frightened him.

Few men give so little thought and have so slight a desire for money as has Mr. Edison, and therefore it was not the possibility of making gold for himself that thrilled him while carrying on these experiments; but the fear that, should his experiments be successful, he would shake the entire commercial, industrial and investment world to its very foundations. Certainly such a discovery would cause a greater world panic or industrial and social revolution than history has ever witnessed.

But this is not all. Mr. Edison's experiments have not been limited to the walls of his laboratory at Orange, N. J.; he has spent large sums of money in the South on practical and extensive operations. As is well known, in a certain section of the coun-

try there is a kind of clay which contains almost enough gold to make its workings profitable. There are but few if any which at the present time are being worked, wherein there is less than about three dollars to the ton. The most important great beds of clay run about a dollar to the ton, and when some process is discovered which will enable these dollar clays to be profitably operated, something vital will happen to our "Gold Standard."

Mr. Edison states that under the city of Philadelphia is a stretch of clay forty miles long which assayed thirty cents to the ton, and that in this little belt alone is more gold than all the free gold today in the vaults of the United States Treasury. In discussing these and other deposits, he spoke of the very limited use of gold in the arts and manufactures, and said, "Doesn't it seem strange for the entire financial systems of the world's greatest countries to be founded on a metal, for which the only use we have is to gild picture frames and fill teeth?"

Of course, no discovery has yet been made to use these very low-grade clays; but Mr. Edison stated that it is not only entirely possible but very probable that some such discovery will be made within a reasonably short time. Experiments, which he and others are making, are bringing such discoveries nearer every day and even tomorrow some chemical process may be found to successfully bring about this most wonderful and far-reaching result. When it is considered that this clay exists in very large quantities throughout the entire United States, and

that even the sea water is said to contain five cents worth of gold to every cubic yard, the great importance of the work is self-evident.

Now a word as to the "Gold Theory." At the present time, the monetary systems of the world are based on the fact that the Bank of England must, by law, be ready to purchase all gold of standard fineness at 77 shillings 9 pence per troy ounce, and that any person can bring gold to our United States Treasury and receive gold certificates therefor on a similar basis. The result of this is that anyone having a gold mine is in a different position from almost anyone else in the world, as his product is not subject to supply and demand in the ordinary sense, but he can take it directly to the Bank of England or to the United States Treasury and receive money for it at this fixed rate, which money he can use for the purchase of goods at any store.

It will be seen, therefore, that if some man should discover an almost unlimited amount of gold, he would not bring down the price of that gold in the terms of money, the same as if he discovered any other commodity; but he could go to the Bank of England or to the United States Treasury and obtain an unlimited supply of gold certificates in exchange. Now it can be readily seen that although some man should have an unlimited supply of gold and could obtain an unlimited supply of bills from the Bank of England or the United States government, yet as soon as the people, who own real commodities such as wheat, iron and merchandise become aware of this fact, they would not

sell him their real commodities at prices at which they held them before his discovery, but would immediately advance their prices. In other words, the more money he might manufacture, the less people would care for it and consequently, they would want more money for the real commodities which they give him in exchange. A ton of iron, a bale of cotton, or a bushel of wheat is much more useful, intrinsically, than a thousand dollars in bills, or even the actual gold which these bills represent.

Of course, this is a radical illustration; but Mr. Edison insists that a process similar in principle is now slowly going on; that is, that gold is actually becoming more common, that the miners are rushing it to the United States Mine too rapidly, and that the merchants to whom they offer it are unconsciously feeling that it is depreciating in value and consequently are raising the prices on their goods to correspond. Of course this is hard on those of us who have not gold mines and are dependent on fixed salaries or on the income from long term bonds; but it is impossible for the storekeeper to have one price for the miner and another for the wage earner; therefore, we must pay these increased prices.

This great increase in the gold production about which Mr. Edison talks, is well illustrated in the annexed chart which shows by a heavy solid line the world's production of gold; by a heavy dotted line, the production of gold in the United States and by a light dotted line, the production of gold in the Rand Mines. It will be seen that the total

yearly production has increased from 5,749,306 fine ounces in 1890 to over 20,000,000 in 1911 which is having three effects, viz.:

(1) This increased production is causing a general increase in prices.

(2) When this increased production increases too rapidly, it is like giving a child too much money to spend. It causes a certain recklessness among the wealthy and great discontent among the poor, spreading seed for a financial and social revolution, an effect which is the real evil of the increased production of gold.

(3) The last and most interesting result is on the investor and the prices of stocks and bonds; and this is best described by Mr. Edison's own words, which are submitted verbatim, Mr. Edison having written these conclusions after very careful thought.

"All the great government, state, municipal and railroad loans of the world are represented by long term bonds. These bonds are payable in a certain commodity of a certain weight and degree of purity. This commodity has very little intrinsic value; little is used in the arts, it is kept in vaults and shuttlecocked between financial centers, melted, coined and remelted. It is a mobile commodity which is accumulative; it has been accumulating since the dawn of history. Its only value resides in the brain of man. All men agree to accept it as a measure; nearly all other commodities are more desirable to meet physical wants which will never change, but gold is a commodity of the imagination.

“Modern methods in mining, modern chemical discoveries, increased intelligence and scientific business methods have led and is still leading to the production in the last fifteen years of an immense amount of gold. Every year, the average will increase at a greater ratio, and when science has advanced a little more, the gigantic and absolutely inexhaustible deposits within the low-grade clays of gold countries will be worked at a high profit. The world’s business has increased so enormously that the increased production of gold has heretofore fitted in; but this point has been passed. Gold production will hereafter increase faster than business.

“The mass of this commodity will become a burden. Thinking masters of capital will hesitate to loan money to be repaid at some long period in the future with this commodity. If they loan at all and *place themselves at the mercy of a steam shovel and chemical works*, the calculated deterioration as to its value over the loan period will have to be paid by the borrower at an increased rate of interest. Railroads are hoping for the return of a period when they can sell low interest bearing bonds. *In my opinion that period will never come with the loan payable in gold.* The day of 3-1/2% for the best borrowers has passed never to return, and long term bonds will not be so desirable as they have been in the past. The rapid advance in intelligence and education in the science of money and values is bound to disturb the blind and orthodox belief in the value of gold as a commodity. More

and more shall we see that it is safer to own the stocks of say a railroad having no bonds, than the bonds of a railroad because the stock ownership represents good property, something intrinsically valuable; whereas with the bonds, speculators could step in and pay them off with a depreciated commodity.

“To my mind, merchants’ notes taken for goods sold or advances on goods in transit are the highest securities; next, short term state securities with the taxing power behind, and short-time real estate mortgages.”

Considering that unlike many professional economists and academic students, Mr. Edison is thoroughly familiar with the mechanical and chemical side of this great problem as well as the theoretical, this is the most astounding statement on the “Gold Theory” that has ever come from the pen of any living man and is certainly worthy of the most careful consideration by every banker, merchant and investor on this civilized globe.

CHAPTER XXII.

INVESTING IN NEW PROPOSITIONS.

A SHORT time ago, a well-known civil engineer asked advice relative to some investments which he holds. He stated that his investments had been very unfortunate, and although his professional income had been large for a number of years, he had succeeded in saving only a comparatively small amount of money. This man is supposed to have splendid judgment and is himself consulted on very important problems, but his list of holdings consisted mostly of stocks of mining companies, oil companies, land development companies, together with "securities" of corporations organized to promote new patents which were promised to revolutionize the world. In short, he had "invested" during the past ten years exclusively in new companies and untried propositions of which he really had very little knowledge. Truly, he could say that "investing is only one form of spending."

Now, of course, it is easy to advise a man to invest only in high-grade, seasoned securities, and when such securities can be purchased to yield five per cent or more, they are the best investments. On the other hand, if everyone immediately followed this advice, these good securities would soon increase to such abnormally high prices that their yield would be very unattractive. Moreover, it would be impossible for legitimate, new enterprises

to obtain new money for important and useful development work. For this reason it is both unwise and selfish to always advise a man never to invest in new enterprises, although one might so advise a man at the times when high-grade, seasoned securities may be purchased to yield a satisfactory rate of income. In fact, one of the most remarkable features which becomes evident to students of finance is that the rate of interest, if allowed to work naturally, has the same effect in regulating the flow of money into new enterprises as the "float" has in regulating the flow of gasoline into the cylinder of a gas engine.

Tests of New Enterprises.

If high-grade, standard securities can be purchased to yield approximately five per cent, this shows that the country is in no need of new developments, and that one had better loan his money to concerns now in successful operation. On the other hand, if these high-grade, seasoned securities are selling at prices causing the yield to be abnormally low, and said high prices are not due to manipulated speculation, this shows that sufficient capital is not being appropriated for the development of new enterprises and that an investor is justified in looking up new fields of investments.

The Character of the Promoters.

When discussing a leading manual on railroad and corporation securities, a publication which gives investors the details relative to corporations

whose securities have been offered to the public, including capitalization, earnings, property owned, and various other matter, a banker once said: "The publication is a very valuable work; but it sorely needs a supplement, fully as large as the manual itself, which will tell me about the *character* of the men operating said corporations. In other words, when asked to purchase the note of an industrial corporation, although I like to have a statement of said company, yet I am much more interested in knowing about the personal life of the men who operate it. When looking up a certain corporation, if I could see a photograph and read an honest biography of each of the officers and members of the executive committee of said corporation, I could immediately make up my mind whether or not I wished to buy its paper."

He continued by saying, "I want to know in what town or city they were born and who their ancestors were. I want to know where they went to school; whether they worked their way through and appreciated all their opportunities, or whether they simply got through 'by the skin of their teeth' and wasted most of their time in social life. I would like to know in what line of work they have been; how many different positions they have occupied; how they have made their money; where they live today; of what their family consists; whether they take an active interest in church work; who their associates are, and how they are regarded by their neighbors and townspeople."

In short, this well-known man emphasized

strongly the necessity of loaning money to and purchasing securities from only those corporations which are operated by men of integrity, and whose business relations record straight-forwardness, perseverance and true success. Therefore, the first step to apply to any new proposition which is offered for investment is the question, "*Are the promoters clean, honest men?*"

If they are clean, straight-forward men, the proposition is worthy of consideration, and the second test may be applied; but if otherwise, the proposition should be let alone. Of course, men who are not straight-forward apparently succeed, and men who have not clean, personal records apparently make money; but as a matter of principle, a self-respecting man should take a firm stand to be in business only with men of his class; and certainly when one buys stock in a company, he is practically entering into partnership with the other stockholders.

Moreover, there are enough good propositions about, and there are enough opportunities where one can invest his money so that he can afford to discriminate and eliminate without consideration all propositions which are not operated by men who are his equals, and refuse to consider securities which are offered for sale by men who do not stand for integrity and righteousness.

Experience is Important.

Not only should men be upright; but they should also have had experience in the line of business

which they are promoting. There is a New England man who is a promoter of a company for the manufacture of automobile trucks. This man is an honest, intelligent fellow; but such money as he has, he "made through the wise choice of a father" and has really earned but little himself. Today he is some fifty years old, is a prominent citizen in the small town, is respected by his neighbors and loved by his friends; but thus far he has done nothing but cut off coupons, with the exception of holding unimportant positions in companies in which his father had large interests.

This man has always desired to go into business of some kind, and he is sure that the "coming business" is to be in automobile trucks; consequently he has organized a company to manufacture and sell such trucks. Not only is this man honest in his intentions, but he is putting considerable of his own money into the business and would put more in were it not for his sensible Yankee wife who shrewdly insists that the remainder of the money be raised by selling stock. Now, of course, this company may be very successful and he may make a fortune for himself and friends; but the chances are very much against it. Not only is he handicapped by the established concerns already in the business, which are now supplying more trucks than are demanded, but he has had no experience in the automobile business, and the only men he has employed as his advisors are men whom the established manufacturers find it not worth their while to retain. Therefore, there is no doubt in

my mind but that this man will lose considerable of his own money as well as that of his friends who are buying the stock in his company, and there will be one more name to add to a list of over thirty thousand worthless concerns, the securities of which have been offered for sale to small investors throughout the country.

Judgment.

But not only is it necessary to purchase stock of companies whose promoters are men of experience in their respective lines, but also these companies should be operated by men of good judgment. There are lots of men, who are splendid mechanics, who have an extra good education, and who have worked for years in the manufacture of some article, yet who have had little experience in financial matters, who are literally unable to operate a large company and especially unable to sell its output. There are two distinct departments to all industrial concerns; namely, the manufacturing end and the selling end. Many companies are promoted by men of integrity who have had good experience along the mechanical lines of the business, but are utterly unable to sell goods after they are manufactured. *Today it is the man who has the ability to dispose of the output who controls the situation in most industries.*

This applies not only to manufacturing companies, but also to certain industries which are absolutely dependent on the producing end, such as coal companies and even railroad companies. As

an example of this class, there is a coal company whose preferred stock was purchased by very able New England people as a choice investment and which is now paying no dividend whatever and selling at a very low price, while the first mortgage five per cent bonds are selling in the vicinity of seventy-five. This company has splendid coal properties and the technical end of the business is being cared for in a most economical and scientific manner; but the selling end lacks organization because the men who promoted it, although good mining engineers and good bankers, know nothing about the coal business *as a business*, and are unable to distribute their output at a profit. It is therefore evident that, when applying this second test, namely, "*Are the men experienced in the line of work?*" we should consider both technical experience and native business ability.

Physical Conditions.

As a fourth test, one should ask the question, "Are the physical conditions, upon which the new company is dependent, satisfactory?" Many new propositions which have passed successfully the first test, fail on this. For instance, it would be useless to build a subway on the plains of Kansas, or an artificial ice plant in Quebec, or attempt to sell furs in cities of the torrid zone; yet many promotions are of similar aspect. Among some of these is a coal company in a New England state where coal has never been found; a copper company in a part of the country where geologists claim it is

impossible for copper to be deposited; a new gas company in a city with wonderful undeveloped water power, and of a railroad company between two cities which now have a most excellent deep-water steamship connection. All of these companies are being promoted by honest men and men who have been trained in their respective lines of business; but for some reason or other, they have certainly "gone off a tangent" regarding these promotions. In some cases they are promoting the company as a matter of pride or to develop their home town. Sometimes there are other reasons for their interest in these propositions which are bound to be unprofitable; while in one the stock is apparently being sold simply with the idea of making a profit on the stock without any expectation of developing the property.

The most pitiful case of all is that of a retired clergyman who is selling the stock of a plantation on one of the islands which the United States acquired during the Spanish War. This man is an absolutely honest man and has been a preacher in a city not far from New York for a number of years. On talking with a man who had been interviewed, it was found that this well-known preacher had broken down in health and decided to give up the ministry as he needed out-of-door work, and having a persuasive manner, he was urged to sell stocks in these new promotion schemes. Believing that the brokers advertising this stock are honest, he is peddling it among his former friends, knowing nothing about finance, nothing about busi-

ness, nothing about that part of the country in which the property is located and nothing about the character of the brokers. Although this preacher deserves sympathy, especially as his intentions are the very best, yet he is making a great mistake in selling these stocks, and unfortunate are the people who purchase them from him. In fact, when such a man comes to sell you stocks, instead of buying the stocks, ask what his commission would be and give him a check for this commission if you wish to help him; but do not buy the stocks.

Stick to Your Own Game.

In addition to making sure that the promoters are acquainted with the character of the business which they are promoting; the investor should also, when buying securities in new propositions, confine himself to lines of business with which he is acquainted. Therefore, the fifth test to apply is to ask the question: "*Am I thoroughly acquainted with this line of business upon the success of which my investment depends?*"

When a man invests in high-grade, seasoned securities, he is free to purchase securities of railroad corporations, public utility corporations and industrial companies, although he has no personal acquaintance with the line of business in which he is investing; but the same rule should not be followed when investing in speculative or unseasoned securities. For instance, let us assume that a man is a coal dealer in a small western town and that by prudence and hard work, he has saved \$30,000 or

more, all of which is invested in high-grade securities. Now, it is not necessary that this man be acquainted with the operation of railroads or steel companies in order to have this money safely invested in bonds of the Pennsylvania Railroad Company, the New York Central & Hudson River, the Illinois Central, or the Southern Pacific, or in the preferred stocks of such corporations as the American Sugar & Refining Company, the Virginia-Carolina Chemical Company, or the United States Steel Corporation. These are established enterprises run by men who thoroughly understand their business, and although the man's personal business training has been confined wholly to buying and selling coal in this small western town, he is fully justified in having his money invested in the securities of these and similar corporations.

We will now assume, however, that this man is not fully satisfied with the average yield of about five per cent which he receives from his present investments and desires to "take a flyer," or in other words, to invest \$2,500 in the stock of some new enterprises with the hope of doubling his money. He has read about the development of oil companies, gold mining companies, wireless telegraph companies, cotton picking companies, and a host of other new enterprises; so he is very anxious to buy a little stock in some of these new propositions and seeks advice.

Cases of this kind should invariably be treated as follows: One's first inclination is to advise such men to let all these new propositions alone and con-

tinue to invest simply in high-grade, seasoned securities; but such advice would probably not be heeded. Therefore the advice should be "*Look for a proposition which passes the above-mentioned tests and which is based on a familiar line of business.*" Now, this advice is fundamentally sound, and the great value of such a test is exceedingly evident when the investor invariably replies, "Your advice may be very good, but I know a great deal about the coal business and it is not a very satisfactory character of business. I have no money invested other than in the coal which I have on hand, and I do not wish to get tied up in any coal mining investments." Whatever the business in which a man is engaged, he seems to dread investing money therein and invariably desires to invest in something about which he has no knowledge! Scores of illustrations could be given on this point which *show very exclusively why a man should "take a flyer" only in some line of business with which he is thoroughly acquainted.*

If you are in the steel business, confine your speculation to steel stocks; if you are in the lumber business, confine your speculation to stocks like those of the International Paper Company, the Union Bag & Paper Company and similar propositions; if you are in the boot and shoe business, confine your speculation to stocks like the Central Leather, American Hide & Leather, etc.; if you are in the dry goods business confine your speculation to the securities of the United Dry Goods Company, The American Woolen Company, or other

similar textile companies. If you are in the paint business, look up National Lead Common and Preferred; if you are in the grocery business, study the National Biscuit, American Sugar, Standard Oil, and a host of others of a similar nature; and so on down the list.

To sum up, it will be seen that when one invests in a new proposition, great care should be taken to apply five tests by asking these five questions, viz.:

- (1) Are the promoters clean, upright men?
- (2) Are the promoters experienced in the line of work which the new company is to undertake?
- (3) Have the promoters good business judgment?
- (4) Are the physical conditions and opportunities surrounding the new promotion reasonable?
- (5) Is it a line of business with which you (the investor) are fully familiar?

Of course, there are other tests which also are important and which must be complied with to ensure success; but these cannot be considered here. It can be stated with certainty, however, that any new proposition which fails to fulfill these five tests should be passed by.

CHAPTER XXIII.

CONCLUSION.

IN the previous chapters the writer has conscientiously striven to give the reader some good advice relative to bank accounts and establishing for himself a credit, together with specific descriptions of different kinds of corporations and different groups of securities. Various other subjects which trouble the investor have also been discussed and the writer has endeavored in all cases to treat the subject justly, giving both sides of the question. Thus, if the reader has absorbed all that has gone before, he should have in his mind a clear idea of the different kinds and groups of securities and the various questions and terms involved therewith. On the other hand, owing to this endeavor to be fair to all interests, the reader may still have no definite ideas as to how or when to invest. Hence, in order to be of real help to investors, the writer will now "remove the brakes" and briefly, but frankly, state his personal opinion regarding investments.

Three Different Stock Market Movements.

In Chapter III of this book will be found a description of three classes of investors which are grouped according to the different kinds of stock market movements by which they endeavor to profit. In the first place there are the daily fluctuations of which the average trader endeavors to take advantage. These fluctuations may be com-

pared to the ripples on the waters of a bay. They cannot be foretold in any way, and they bear no relation to the intrinsic value of the prospective properties or to conditions in general. Any man who endeavors to make a profit from these movements is, in my opinion, simply a gambler.

Secondly, there are the broad breaks and rallies of from five to ten points, extending over a few weeks and caused by the market's becoming overbought or oversold. These broader movements may be compared to the waves caused by the winds blowing over the waters of a bay. How the winds are to blow no one can tell; but knowing how they are blowing, it is comparatively easy to forecast whether the waters will be rough or smooth. If professional traders would let the market alone, the tide would slowly and regularly advance or recede without these waves, changing in accordance with fundamental conditions; but, owing to their impatience and avariciousness, these operators are continually either pushing the natural movement too far, or else retarding it. If the tendency of the market is thought to be downward, all these operators become bearish and sell stocks short until the market becomes "oversold" and is lower than conditions warrant. As soon as it occurs to the operators that they have done this, they all change their position and begin to buy, continuing until the market becomes "overbought," or higher than conditions warrant. The market, therefore, is very seldom at its logical point based on fundamental conditions; but is almost always above or

below this point, based upon these technical conditions.

As to what these operators are to do, it is impossible for any one—even themselves—to foretell; but from a painstaking and systematic study of the tape it is often possible to tell what these operators are trying to do, and thus it is often possible to intelligently guess whether a break or a rally is next in order; but at best it can be only a guess. Of course I do not advise any one to study the market's technical condition for the purpose of trading in these movements; but to those who are bound to trade, I strongly recommend that they fortify themselves by a study of these movements and the technical conditions causing them.

Thirdly, there are the long swings extending over one or more years, caused by corresponding changes in fundamental conditions. These long swings may be compared to the movements of the tide. The ripples cannot be foretold in any way; the wave movements can only be guessed at; but the tide movements can be foretold with absolute accuracy. In the same way, students of fundamental conditions can tell whether the market is at high or low tide, or whether the tide is going out or coming in.

Study Financial Cycles.

All financial and industrial history has been divided into distinct cycles, and each cycle has consisted of four distinct periods of from two to four years. There is the period of business pros-

perity, during which the insiders liquidate and stocks decline in price; the period of business decline, during which stocks drag on the bottom; the period of business depression, when the insiders are accumulating and stocks are increasing in price; and the period of business improvement, at the last end of which stocks reach abnormally high prices. Moreover, by a systematic and thorough study of both business and investment conditions, with their relations to each other, it should be possible to tell with exactness in which of these four periods we are at any given time, and to estimate fairly closely when a change may be expected.

Since it is thus possible to anticipate these long swings, referred to as the third movement, those with money and the courage of their convictions are enabled to make large fortunes. Moreover, unlike almost any other form of speculation, such men as do take advantage of these movements are performing a distinct service to their country by helping to steady conditions. In fact, every additional investor who henceforth endeavors to profit by these long swings causes the future periods of depression to be less severe and the future periods of prosperity to be less reckless.

In view of the above, two statements should be self-evident. The first one is this: There is no sure way of making money in day-to-day speculation, such as is indulged in by the ordinary trader. Ninety-eight per cent of such traders come to grief, losing not only their money, but also their health,

reputation, and what is worst of all, their courage and self-respect. The game is absolutely "rigged" against them, as the powers that be own all the paraphernalia and apparatus, and are subject to no laws or regulations. At Monte Carlo one plays simply against luck, and with the exception of about two and a half per cent in favor of the bank, the player has an equal chance with the bank to win, which is not true when he is playing against Wall Street. Not only are the commissions against the speculator—so that if he should win one-half of the time he would still be out his commissions—but almost everything is "rigged" to beat him.

Don't Follow the Crowd.

Most market letters urge the public to buy when they should sell, and to sell when they should buy. The banks lower their money rates and make it easy for people to purchase when stocks really should be sold; and, conversely, they call loans and unintentionally do all that is possible to prevent the public from purchasing when stocks are low. Corporations raise their dividends and publish splendid reports, making their stocks look attractive when they are already too high, and they reduce the dividends and show poor earnings when the stocks are really an attractive and safe investment; and so it is all the way down the line. Banks, corporations, leading men, and even many of the brokers themselves, are all consciously or unconsciously combined to get the public in wrong.

Consequently, only about two per cent of the traders who enter Wall Street ever succeed in beating this game, though even a larger percentage of those who play at Monte Carlo beat the bank there.

Of course, if one knew that the Wall Street organization would invariably give the wrong advice, one could—if he had extraordinary self-control and independence—beat the game by always doing exactly the opposite of what some of the news sheets, banks, corporation officials and brokers generally advise; but this also is an impossibility, as these interests sometimes advise correctly for the very purpose of still further bewildering investors and the public generally. Therefore, the first point that I wish to impress upon the reader is that only about two per cent of the speculators and room traders ever succeed in retiring from Wall Street with any profit, and that the majority of this small percentage do it largely through luck.

The second statement that I wish to emphasize is as follows: Although the ordinary speculator has a very small chance of profit, and although it is almost an impossibility to make money in stocks along the lines ordinarily practised, yet there is one method by which it may be done. I refer to the method of taking advantage of the long swings, extending over periods of from one to four years, which is possible by a systematic study of fundamental conditions.

As to what the stock market is to do today or tomorrow, or even next week, or possibly next

month, no one knows, and only those fully acquainted with the market's technical conditions can make an intelligent guess. Outside of about half a dozen interests in Wall Street, all the rest of those who play the short swing game are simply tools. These six are well known to all and obtain their power simply through their intimate connections with the press, the corporations and the brokers. Moreover, although these men may have their places taken by others, yet their number will never be much greater; for, as the circle extends, they begin to endeavor to beat one another, which keeps the number down. So one cannot reasonably expect to be one of these.

Be a Big Man.

There is, however, another and much larger circle of men who represent Wall Street in the popular mind and are continually making and retaining great fortunes. These men, however, are not traders and speculators, as are the first mentioned six, although the public does not recognize the difference. The operations of these bigger men are based wholly on fundamental conditions and long swings. When stocks are cheap and they consider that fundamental conditions are becoming sounder each week, they begin and continue to accumulate so long as fundamental conditions continue to improve. This period usually lasts for about eighteen months, although they may do eighty per cent of their buying during the first few months of the period, when the press, the

banks and the corporation officials all seem pessimistic and the public is selling.

At the end of this period, and upon the first sign of real prosperity, these men begin to sell, although many of them continue to talk optimistically so that the public will buy. In other words, the distributing process commences, lasting for one or more years, during which time the leaders are all talking optimistically, the banks are loaning money at low rates, and the corporations are raising their dividends. Nevertheless, fundamental conditions are no longer improving, and these men who study fundamental rather than surface conditions are rapidly selling all of their stocks; in fact, even the money received from the sale of these stocks is loaned on the Street to enable the public to buy stocks more easily.

Then, when the public has absorbed all of the stocks possible and surface conditions are so bright that the ordinary speculator is anticipating no trouble—although fundamental conditions are, of course, unsatisfactory—the word is passed around to “pull the plug.” Stocks then begin to tumble and almost every one suddenly becomes pessimistic, banks begin to call loans, corporations reduce dividends and everything is done to force the sale of stocks and cause low quotations. This method of depressing the market is continued for one or more years until fundamental conditions begin to improve, when the accumulating process above mentioned is again commenced, although business,

so far as surface conditions show, is still very much depressed.

In short, these men, constantly studying fundamental conditions, enter the market once in every few years to buy or sell according to what these fundamental conditions indicate. After purchasing stocks they hold them for a year or so, selling out when the public begins to buy, and loaning money to the public for a year or more thereafter to make said purchasing easier. When they have sold all of their previous holdings and also are heavily short of the market—while banks, merchants and investors are overextended and fundamental conditions are becoming unsound—they suddenly change their attitude, begin to talk pessimistically and do all they can to depress stocks, as above suggested, preparatory to another period of accumulation.

As to what the market does from day to day or from month to month, these men do not care. They do not trade as do ninety-nine per cent of the speculators, but rather play simply for the long swings. Moreover, although I strongly oppose many of the methods that some of these men employ, yet I believe that the ultimate result of their studies is good for the country, by tending to steady conditions as well as being profitable to themselves.

Of course, this means confining all of one's buying to perhaps one month in two or more years and holding said stocks for a while; confining all one's selling to perhaps a month, and then buying only

commercial paper for a while. By so doing, however, one may eventually accumulate a great fortune without much risk, especially if he will confine his investments to high-grade standard securities. Nearly all of the honest great fortunes of this country have been made by a study of fundamental conditions, by independent work along the lines above mentioned. Moreover, it is only by studying fundamental conditions that one can align himself with these large interests—which do not trade from day to day or from month to month—and make money as they do.

How to Study Fundamental Conditions.

Various charts and tables have been prepared by different individuals in order to enable the investor intelligently to take advantage of these long swings. With the exception of the Area Charts so-called, all of this work either has ignored one of the two factors (time or intensity) or else has not properly considered the changed conditions due to a country's growth or decline. Hence, much of this work has not only failed properly to register present conditions, but has absolutely failed to aid the investor in forecasting future conditions. These criticisms, however, do not apply to the Area Theory, which is graphically shown by the annexed chart, and which theory will now be explained in detail.

The Composite Curve Measuring Temporary Changes: This outline of the black area (which henceforth will be referred to as the "curve") is

determined by reducing to common index numbers and by combining the latest figures on various business barometers such as:—bank clearings, money rates, new building, railroad earnings, politics, crops, etc. The advantages and disadvantages of using such a composite plot should be self-evident. At first thought one concludes that by omitting or including certain subjects and by using different systems of weighting that such composite index numbers can be made to show almost anything desired. But, as students of averages will know, such is not the case. The writer has at his offices in Wellesley, Mass., a great number of these composite plots made up in different ways with different subjects, and the similarity of them all is most wonderful. Consequently, all admit that this curve records or measures the *temporary* changes in business conditions. Moreover, complete details as to how it is made up will gladly be mailed gratis to any reader on request.

The altitude of the area represents the intensity of the business movement, while the horizontal length of the area represents its duration. On account of this fact, a diagnosis of an area plot and a consideration of the area's shape aid one in determining how long it will be before a change in conditions may be expected. If an area is being developed above the normal line, and it is believed that the next economic movement will be below said line, it is important for the business man to know when the change in conditions may be expected. The statistician bases his conclusions

as to duration of the various periods upon the shape and size of the areas. If an area is one of considerable altitude, the change may be expected to take place very much sooner than if the altitude were not so large; while, on the other hand, shallow areas are likely to continue for some time.

The X—Y Line Measuring the Trend: If such variables as politics and crops were constant and there were no disturbing natural forces such as great earthquakes and floods, no adjustment or correction need be made; but the X—Y line could thus be considered as fixed. These uncertain forces should be considered, and the method by which this is accomplished is one of the salient features of the Area Theory. This correction, based on bank clearings, representing the nation's net growth, comes through the location of the X—Y line, known in Europe as the R—P line. This is the oblique line dividing the above-mentioned curve into areas. Its origin and location is as follows:

The Area Theory, so-called, is simply a study of the areas formed by these two lines, viz.: the curve first mentioned and this X—Y line. In the plots published by the Babson Statistical Organization, the curve is located once a month, and the X—Y line once a year; but both the curve and the X—Y line theoretically change every day. The curve changes in accordance with the various economic movements above mentioned, while the slope of the X—Y line changes in accordance with the net growth of the country, and thus is dependent upon

crops, politics, etc. Practically speaking, the curve is the combination of a large number of subjects, and represents monthly activity, while the X—Y line is based on the net growth of the country as determined by previous areas. Each year the slope of this X—Y line is temporarily fixed by a study of bank clearings and other factors. This correction, known as the annual correction, is automatic. Furthermore, at the end of each cycle, say once in five or six years, an arbitrary correction is made by slightly raising or lowering the X—Y line so as to make the area above and below thereof equal for the completed cycle. This second correction is made on the assumption that “action and reaction are equal” when applied to business *en masse*, and hence would not be made by persons who claim not to grant this assumption.

The condition of the money market and general business has long been shown by charts and curves; but these all have been of little avail for correctly measuring changes, because, owing to the growth or decline of nations, conditions have varied or the standard of measurement has changed. The value of the Area Theory lies in the fact that these changed conditions are compensated for. This X—Y line acts like an automatic governor on an engine. The curve, of course, records the “ups and downs” of business as have the curves of other students; but the area formed by said curve and the X—Y line affords an opportunity to intel-

ligerly read into the plot all the contributing factors.

A Measure of Present Conditions and an Aid in Anticipating Future Conditions.

When crops are good and politics constructive, the X—Y line automatically slopes upward enough to compensate for this additional growth to which business is entitled; but when crops are poor, politics uncertain, or the country has met with some great disaster, the X—Y line slopes automatically downward.

Therefore, it will be seen that the area composite plots differ even from other composite charts in two ways: (1) By being determined from the two factors of time and intensity (which, when multiplied, form an area); (2) by the fact that the area itself is being continually corrected by the X—Y line, the slope of which varies with the changes in crops, politics and other factors. Thus these area composite plots give a practical measure of present conditions, constantly adjusted to basic changes, and yet capable of comparison with previous periods.

At this point it should frankly be stated that the adoption of the theory of action and reaction as applicable to business is wholly an assumption. In other words, it can not now be proved that the law of action and reaction is applicable to business *en masse*. Such proof can come only with time. The Babson Statistical Organization frankly

assumes said law* as being applicable to business as well as to mechanics and other sciences and on this assumption bases its interpretation of the plots in anticipating future conditions.

Not only do the areas formed as above described offer the best existing measure of present conditions; but, by enabling one to compare present with normal conditions, the writer believes one is able, from the assumption of the law of action and reaction, also to anticipate future changes and thus foretell the great tidal movements in the security and commodity market.

On this assumption, under certain conditions or rates of growth as determined by the X—Y line, if business develops normally above said line, it must later rest a corresponding amount below it in area. The over-extension of loans, over-production of merchandise or any other abnormal economic movement carrying the curve far above the X—Y line should, under this assumption, be compensated for by a similar movement of the curve below the X—Y line, unless the country grows enough to absorb this abnormal movement, which growth would result in the automatic raising of the X—Y line. In other words, we assume that for every action there must be an equal reaction, although the reaction may sometimes be absorbed through growth, and the shock be unnoticeable. On the other hand, after an abnormal period of contraction of loans and curtailment of production, during an area formed by the curve dropping far below the X—Y line, we believe that a compensating upward development of the curve will take place, unless the growth of the country is so retarded through crop failures,

*During Sir Isaac Newton's active life, he applied this law of action and reaction only to mechanics, chemistry, astronomy and other sciences, but during his later life he entered into the study of theology and economics. If one will turn to page 388 of Sir Isaac Newton's *Philosophical Discoveries*, written by Maclaurin in 1748, it will be plainly seen what was in the mind of this great philosopher. From the author's studies in England, he is absolutely convinced that Sir Isaac Newton thought that the same law of action and reaction could be applied to the acts of man *en masse* as to mechanics, chemistry, astronomy and, in fact, to every other science.

war, desolation or political disturbances as to result in lowering the X—Y line. In either case, we assume that the areas above and below the X—Y line should work out to be approximately equal, and thereupon base our opinions as to the probable course of future events.

This theory relative to action and reaction is most easily understood if one will remember that when an area is being formed *above* the X—Y line, it simply means that production is exceeding consumption and that manufacturers, merchants and consumers are becoming over-extended, purchasing more than they pay for; while an area *below* the line signifies that consumption exceeds production, and that manufacturers are reducing their stocks of merchandise, and that consumers are again beginning to save. Further, when the curve, representing business, *coincides* with the X—Y line, ideal conditions exist from an economic point of view. Production and consumption then balance except for the excess which is conserved as capital. *The amount of the excess is shown by the slope of the X—Y line.* The greater the slope upward, the more rapidly capital is being created; while if the slope is downward, it signifies that the nation's assets are being consumed.

Of course this theory relating to action and reaction can be applied more and more exactly as a greater number of people is considered. In fact, the application of Sir Isaac Newton's law to economics is intimately related to the study of averages. It is impossible for one to estimate correctly what will be the length of life of any *one* reader of this book; but it is possible to estimate within a few

years what will be the average length of life of *all* who read this book. When considering 200,000 people, the insurance expert can anticipate almost within a few days what the average length of life of said group will be. In the same way, action and reaction are equal in business and economic movements only when applied to the actions of the mass as a whole, and not to distinct trades or localities.

Therefore, the area plot gives—(a) by curves *the temporary movements of business*; (b) by areas, automatically adjusted through the X—Y line to the growth of a nation, the real condition of business, showing the relation thereof to normal conditions; and (c) by the assumption of the theory of action and reaction in relation to the area movements, an intelligent forecast of future conditions.

The Four Successive Steps.

In conclusion, the preparation of these area composite plots consists of four parts; (1) the combining of many different economic indicators into one curve; (2) the use of an area instead of a line in order to consider the effect of both intensity and time; (3) the correcting of the result as shown by this area in accordance with the growth of the country; and (4) the anticipating of future conditions in accordance with the theory of action and reaction. The first three parts of the work are simply mathematical calculations to which no exceptions are generally taken. The fourth part of the work is based on the assumption of the

theory of action and reaction, the correctness of which only time can prove.

Hence, after these composite area plots have shown an abnormal area above the line $X-Y$, a corresponding area below the line should, under normal conditions, follow if this theory is correct and the line is properly located. Such an area below would mean a depression preceded by more or less panicky conditions and followed by low money rates. On the other hand, after such an area has developed *below* the $X-Y$ line, one may, according to this theory, expect an area above to follow, which would be an area of prosperity, preceded by active stock market conditions with rising stock prices and followed by a period of tight money and declining bond prices. In other words, if this action and reaction theory applied to business is correct, a heavy volume of business with high money rates and low bond prices should come at the end of a prosperity area as the curve is crossing the $X-Y$ line; while a light volume of business, low money rates and high bond prices should come at the end of a depression area, as the curve is crossing the $X-Y$ line on its upward swing.

Of course, there are instances when the students of the area theory are more or less at sea, such as when the curve hovers for some time in the vicinity of the $X-Y$ line near the end or the beginning of a permanent movement. If the curve drops down to the normal line when the area above has apparently been about three-quarters consumed, the most thoughtful student dares not state whether

the next *immediate* movement will be above or below the X—Y line. Similar conditions, however, confront all scientists whether in the field of physics, chemistry or astronomy.

A further study has been made, segregating the present composite plot, as now published by my organization each week, into two plots, each covering twenty years; one series of areas containing subjects which under normal conditions show growth, such as bank clearings, railroad earnings, etc., and the other series of areas, which under normal conditions do not show growth, including subjects such as money rates, surplus reserve, etc. This segregation of the various subjects into these two groups with two X—Y lines, a sloping line for the growth subjects and a level line for the non-growth subjects, is showing some extremely interesting developments and is likely to open a new and extended field of research with a most practical application.

Application.

As it therefore is possible to study fundamental conditions along the lines above indicated and thus take advantage of the long swings, the writer earnestly advises readers to have nothing to do with either of the first two forms of investment mentioned in Chapter III, but confine his purchases either to high-grade bonds for permanent investment, or else to high-grade stocks which should be bought and sold about once in three or four years in accordance with what the area theory

indicates. The portion of the reader's money which he desires to invest in bonds, he should invest at the very end of a period of prosperity when money rates are very high and the outline of the area is coming downward, crossing the line X—Y preparatory to forming an area below the line. This is the time, as shown by the dotted line on the annexed chart, to buy bonds, and usually an investor is best off by purchasing only at such times and then only such high-grade bonds as are listed and actively traded in on the New York Stock Exchange. Such listed bonds are abnormally high during periods of high prices when the investor is better off by purchasing unlisted, inactive bonds; but they are abnormally low during periods of decline. Hence, when it is the proper time to buy bonds, one can usually find better bargains among the listed bonds than among the unlisted bonds.

The portion of the reader's money to be invested in stocks should likewise be invested only, say once in three or four years, during the slump which invariably comes in the early part of an area below the X—Y line, as is clearly shown by the red solid line on the annexed chart. At this time, when every one else is blue and pessimistic, the reader should step in and purchase all he possibly can of the highest-grade stocks, paying for them outright, and then "sit tight." With reliance on Sir Isaac Newton's law, the investor should rest assured that an area will surely develop below the X—Y line to counterbalance the areas above, during which

time money rates will ease up, funds will accumulate, investment will be on the increase and stock prices will rise. This increase in prices will continue until another area begins to develop above the X—Y line, when an investor should sell his securities at the high point, also shown by the red solid line on the annexed chart. Of course, when such a time comes, brokers and friends may insist that the nation is just entering a period of prosperity, and instead of selling stocks, it is time to buy more, but never mind,—pay no attention to such advice. The time to sell is in the early part of the area of prosperity before the other fellow sells, just the same as the time to buy is at the beginning of an area of depression before the other fellow begins to buy.

It is true that this takes courage, as by nature we are all apes and it is difficult to go against everybody's advice and do differently from what other people are doing. However, the only way to make money in the stock market is to be the one man in a hundred to do differently from the ninety-nine, and this means that we should buy when panic reigns and everybody else is thoroughly pessimistic, believing that the market is going lower, and we should sell when everybody else is very optimistic, believing that the market is going higher. As above explained, one should be able to do this by studying the composite plots prepared on the Area Theory. If, however, you are not willing to study fundamental conditions by this Area Theory and have not the courage to act in

accordance with what said Area Theory indicates, then you had better confine your investments to bonds, becoming a permanent investor, so-called, and not purchase stocks for any purpose.

The Kind of Stocks to Buy.

Although the writer has given minute instructions in the preceding chapter for the selection of securities, yet, personally, he believes the reader would be very much better off to give his attention to studying fundamental conditions as evidenced by the Area Theory than to analyze corporation reports, endeavoring to ascertain what stocks to buy and when not to buy. During a panic it is safe to buy any of the good stocks and, moreover, it is important to buy a broad list of—say ten to twelve of the established but active dividend payers. Many men think that they are wise in confining their investments to one or two stocks which they believe are due, for certain reasons, to a special rise. In the writer's opinion, it is a mistake to figure on any such information, or, in fact, any inside tips. When the time comes to buy, purchase a broad list such as the above. Some will go up more than others; some may not go up at all, but the list as a whole will show a handsome profit. When one confines his investments to only one or two stocks, he takes a decided risk, and the only way the writer has made money is by eliminating *all* risks.

When to Sell.

We usually, however, do not have so much trouble in getting clients to buy as we do to get them to sell. It seems to be difficult for the investor to be willing to sell when every one else is optimistic, or to forego his dividends by leaving his money on deposit in a bank for two or three years at a low rate of interest. Nevertheless, the only way to have money with which to buy during a panic is to sell out when stocks are high and to keep this money in liquid form for two or three years until this panic comes. Of course, it need not all be kept on deposit in banks, but much of it can be invested in short-term notes, commercial paper, etc. In making such investments, however, during the period of prosperity while waiting for a panic, the investor should give no attention to rate, but purchase only the highest-grade short-term notes and the highest-grade commercial paper which can be liquidated or sold at any time without loss. Nine-tenths of the losses which occur to investors are due to their desire for too high a rate of interest, and this is a special temptation for the man who is endeavoring to take advantage of the long swings. He hates to let the money lie idle and uninvested for two or three years, waiting for a panic. Nevertheless, this is the only way to play the game successfully. In order to have money to invest during a panic, one must liquidate months, or perhaps years, in advance.

This chapter represents the honest conviction of the author on investing money, although he is well aware that it is not an acceptable doctrine to bond houses and brokers who are dependent on a constant business from day to day and from month to month.

INDEX

Ability	383
Accountant	20
Accounts	14, 17, 21
Accounts receivable	81, 82
"Accrued" or "And Interest"	66, 67, 299
Advertisements	52, 57, 77, 78, 79, 144
Advertising	135
Advice	12, 15, 18, 31, 50, 72, 142, 241, 288, 328, 333, 388
Advice from banks	291
Amalgamated Copper Company	331
American stocks	138
Amount earned on the stock	175
Analysis	143, 153
Annual charges per capita in the United States	218
Assessed valuation as compared to actual values	262
Assessment	25, 137, 253, 300, 301, 305
Assets	23, 24, 25
Assignment	61
Assumed bonds	111, 112
Area Theory	(see Chap. XXIII)
Average life of a gold or silver mine	330
Average price	94
Bank	10, 17, 19, 78, 82, 85
Bank account	12, 15, 18, 30
Bank employees	19
Banking house	21
Bankruptcy	103
Bank statement	22, 23, 25, 27, 348
Best bonds to buy	148
Bid price	27
Book value	27
Bond dealers	79
Bonded debts	153
Bondholders	78, 97, 98, 295, 300
Bondholders' committee	124, 296, 303
Bond house	17, 36
Bond	54, 62, 66, 70, 98, 99, 100, 121, 123, 128
Bonds	17, 61, 72, 75, 77, 86, 101, 129, 238

Bonds of street railway companies.....	199, 203
Bond salesman.....	36, 65
Bonus	71
Borrower	77
Boston Terminal bonds.....	253
Babson Statistical Organization.....	(see Chap. XXIII)
Calumet & Hecla.....	310
Callable.....	72, 74, 75, 76
Call rates.....	340, 342
Call money.....	343, 344
Card system.....	141, 142
Capital.....	51, 80, 84, 135
Capital account.....	166
Capital stock.....	81
Car and train loading.....	164
Central Labor Union.....	359
Certificate.....	53, 59, 60, 61, 62, 99
Certificate of deposit.....	297
Certificate of stock.....	60
Character.....	12, 46
Character of construction.....	242
Character of population.....	274
Character of traffic.....	100
Character of assets.....	23
Charter.....	190, 191, 213, 214
Chattel mortgage.....	116
Check.....	29, 34, 59
Checking account.....	11, 14, 16, 28, 29
Chicago Union Traction Company.....	194
Circular	79
City of Boston bonds.....	118, 254
Classes of bonds.....	100
Classes of franchises.....	191
Classes of stocks.....	311
Cientele	122
Closed mortgage.....	217
Coal supply.....	236
Collateral.....	110, 112, 113, 302
Collateral trust bonds.....	110, 111, 112, 157
Commercial bank.....	14, 16, 17, 36
Commercial paper.....	38, 41, 78, 80, 81, 83, 84
Commercial failures.....	81
Commission.....	33, 119, 120, 121, 125, 126
Commodity	82
Common stock.....	174

Competition.....	124, 198, 216, 210, 220, 224, 226, 227, 230
Comptroller of the Currency.....	20, 22
Concentrating the risk.....	92
Conduits	229
Confidence of the community.....	26, 27
Consolidated mortgage bonds.....	103, 104, 157
Conservative bonds.....	148
Construction	142
Contingent liability.....	270
Convertible bonds.....	105, 109, 114, 115, 149, 157
Conversion privilege.....	150
Convertibility	233
Corporation.....	77, 81, 83, 97
Copper	82
Copper dividends.....	312
Correct yield.....	71
Credit.....	10, 12, 13, 14, 15, 75, 82, 83, 85
Creditors	83
Credit deposit.....	349
Credit rating.....	274
Cost of operation.....	238
Cost of electric power.....	238
Cost per horse power.....	240
Coupons.....	53, 54, 58, 60, 62, 66, 68, 75
Coupon bond.....	64, 65
Composite plot.....	(see Chap. XXIII)
Debenture bonds.....	110, 112, 113, 157
Deceptive practices.....	24
Defaulted bonds.....	67, 287, 294, 296, 298, 300, 304
Demand for money.....	127
Denomination	57
Density	169
Depression period.....	(see Chap. XXIII)
Deposit agreement.....	296
Depositors.....	23, 38
Depository	296
Depreciation.....	171, 220, 231, 233
Deterioration of plant and equipment.....	231
Developments	313
Discount.....	69, 72, 82, 128
Distribution of risk.....	87, 91, 93, 96
Diversification.....	94, 234
Dividends.....	59, 68, 134, 329, 330
Dividend requirements.....	170
Earnings of gas companies.....	215

Earnings of lighting companies.....	215
Earnings (Gross).....	156, 159, 160, 171, 174, 179, 230
Earnings (Net).....	156, 159, 171, 174, 230
Earnings and management.....	197, 211, 214, 225, 226
Earnings of a street railway in times of panic.....	200
Earning power.....	170
Earnings of telephone companies.....	218
Earnings on stock.....	173, 175
Edison on the effects of the increased gold production....	370
Electric fireless cooker.....	211
Electric lighting companies.....	207
Electric railway securities.....	200, 243
Engineer's report.....	78
Engineering organizations.....	132
Entry	99
Equity.....	70, 104, 129, 157
Equipment bonds.....	106, 109, 115, 156
Erie Telegraph & Telephone.....	227
Escrow	79
European investors.....	138
Excess of the debt limit.....	262
Exchanging stocks.....	285
Exclusive franchise.....	192
Experience.....	51, 381
Extension	85
Extended bonds.....	105, 106
Factor of safety.....	152, 154
Financial statement.....	85
Financial stringency.....	23
First consolidated mortgage bonds.....	101
First mortgage bonds.....	101, 103, 104, 108, 156
Fireless cooker.....	205, 210
Fixed charges.....	154, 158, 171, 179
Flat price.....	67
Floating debt.....	113
Flow.....	241, 247
Flowage	239
Fluctuations of the flow.....	249
Foreclosure	100
Foreign investors.....	137
Foreign exchange.....	342
Foreign purchasers.....	118
Frauds	131
Franchise..	190, 191, 193, 194, 195, 196, 197, 212, 216, 225, 229
Franchise and property value.....	197

Franchise and replacement value.....	211, 225
Free advice.....	144
Freight car per mile figures.....	170
French investors.....	32, 51
French savings bank.....	31
Fundamental business conditions.....	184
Fundamental conditions.....	11, 26, 40, 43, 48, 49
Fundamental principles.....	40, 51, 348
Fundamental statistics.....	144
Funds.....	84, 105
Forecasting conditions.....	(see Chap. XXIII)
Galveston	267
Gas bonds	208
Gas companies.....	209, 210, 213
Gas securities.....	208, 211
Gauging stations.....	241
General expenses.....	162, 163
General mortgage.....	104, 157
General mortgage bonds.....	102, 103
General opinion of the community.....	22
Gold and silver mines.....	331
Gold production.....	355, 360, 362, 367, 368, 370, 376
Gold standard.....	372
Gold theory.....	356, 358, 362, 365, 373
Government and municipal bonds.....	188
Gravel road bonds.....	268
Grouping of railroads.....	181
Guarantee.....	79, 80
Guaranteed bonds.....	79, 111
Guaranty ,.....	112
Hammocks	84
Handbooks	329
Health.....	12, 46
Heat.....	205, 206
Honesty	23
Horse power of the stream.....	239, 240, 247, 249
Improvement bonds.....	265, 270, 271
Inactive listed bonds.....	120
Income.....	107, 158
Income bonds.....	67, 157
Improvements	237
Indenture	115
Independents	225

Indiana case.....	268
Industrial companies.....	75, 216, 383
Information.....	141, 142, 143
Instruction courses on investments.....	97
Intelligence	12
Interest.....	16, 59, 60, 66
Interest rates.....	361, 362, 368
Intercommunication	224
Interchangeable.....	63, 65
Interurban street railways.....	198
Interpreting	22
Investors.....	15, 17, 44
Investment	99
Index numbers of business.....	(see Chap. XXIII)
Joint bonds.....	111, 112
Judgment.....	12, 383
Junior issues.....	105
Kind of stocks to buy.....	(see Chap. XXIII)
Land grant bonds.....	107, 109
Leased lines.....	177
Legal opinion.....	77, 78, 115
Legality.....	77, 263, 268
Lighting securities.....	206, 209, 212, 216
Lighting franchises.....	212
Lien	82
Liability	270
Lighting companies.....	91, 92, 211, 213, 214, 215
Limited franchise.....	191, 193, 196
Limit of debt.....	262
Limitations and loopholes.....	261
Listed bonds.....	121, 122, 124, 126
Listed issues.....	118, 119, 129, 136, 139, 311
Listing requirements.....	139
Loans	85
Location	242
Long swings.....	144
London stock exchange.....	117
Law of averages as applied to area theory (see Chap. XXIII)	
Maintenance.....	155, 160, 166, 170, 172, 220
Maintenance expenses.....	74, 165, 170
Maintenance of equipment.....	162, 168, 169, 171
Maintenance of way and structures.....	162, 167, 168
Management.....	22, 199, 216
Manual	379
Manufactured rumors	143

Manufacturing corporation.....	216
Margin.....	40, 174
Margin of profit.....	238
Margin purchases.....	45
Margin of safety.....	25, 165, 175, 176, 177
Market for the electricity.....	243
Market letters.....	142, 144
Massachusetts Acts.....	259
Maturity	128
Merchant's profit.....	124
Mines.....	316, 332
Mining companies.....	314
Mining engineer.....	326, 334
Mining stocks vs. mining properties.....	323
Misleading advice	142
Money rates.....	338
Moody's Manual.....	140
Monetary conditions.....	344
Moral liability.....	123
Moral risk.....	85
Mortgage.....	53, 77, 78, 79, 97, 98, 107, 163
Mortgagee.....	77, 78
Mortgage bonds.....	77, 100
Mortgage equipment.....	156
Mortgagor	78
Municipal bonds	252, 254, 256, 258, 265, 268, 270, 271, 274, 301
National bank.....	16
Native lake copper.....	316
Net earnings.....	156, 159, 174, 230
New business.....	230
New enterprises.....	379, 387
New Haven bonds.....	32
New inventions.....	209
New mines.....	332
New York bank statement.....	37
New York Stock Exchange.....	119, 120, 121, 130, 131, 138
Niagara Falls plant.....	244
Notes.....	53, 60, 63, 77, 78, 81, 82, 85, 98, 157
Non-callable	72
Newton, Sir Isaac.....	(see Chap. XXIII)
Obligation	70
Official Information Bureau.....	141
Official lists.....	120
Ohio case relative to municipals.....	268
Operating expenses.....	155, 161, 163

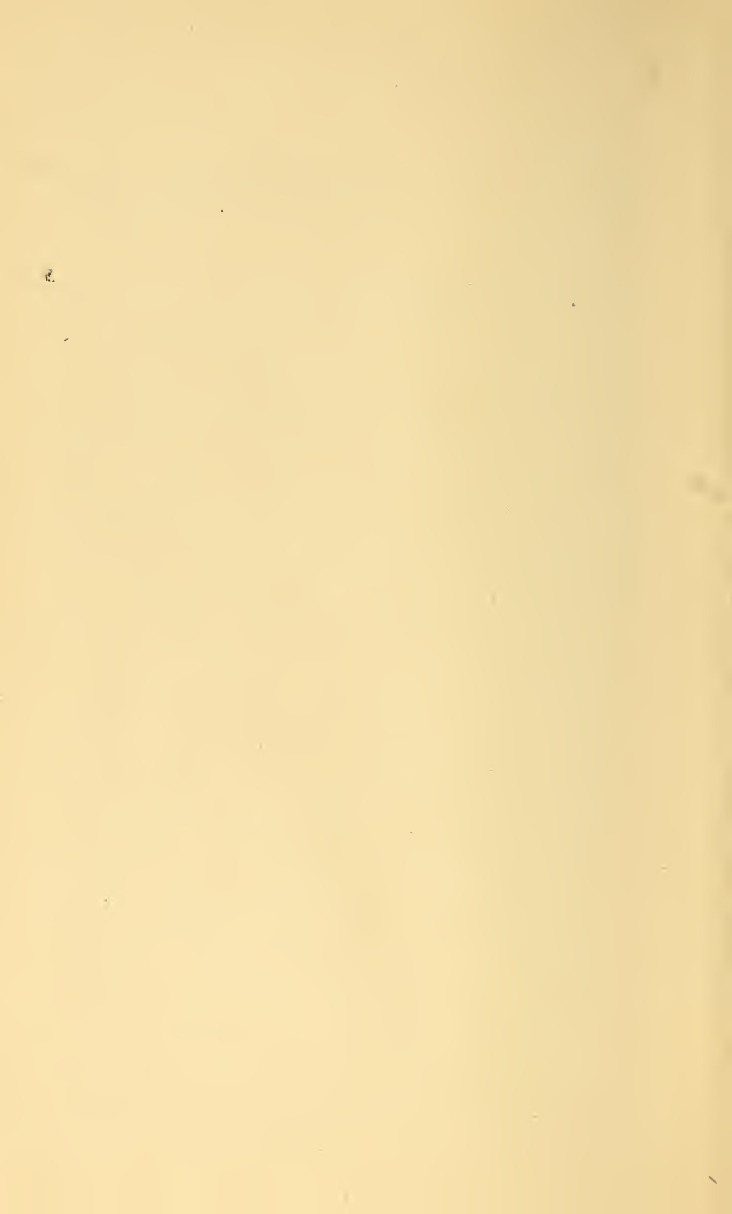
Operating ratio.....	159, 160, 162
Optional bonds.....	74, 75
Ores (low grade).....	367
Other income.....	159
Output and supply of gold.....	368
Over-capitalization.....	224, 245
Overbought and oversold market.....	(see Chap. XXIII)
Passenger car per mile.....	170
Panic	105
Par value.....	68
Paving and sewer bonds.....	268
Peak of the load.....	80, 84
Percentage earned on the stock.....	173
Percentage of loans to deposits.....	345, 347
Percentage of the gross earnings.....	160
Per mile of road.....	168
Permanent improvements.....	254
Permanent investor.....	45, 46
Perpetual franchise.....	191, 192
Physical conditions.....	384
Physical property.....	228
Pig iron.....	82
Plain registered bonds.....	63
Points by Mr. Byron W. Holt.....	368
Political factors.....	231
Population	274
Porphyry group.....	318
Postal savings banks.....	30
Post office department.....	133
Precedence	103
Preferred stock.....	174
Preferred stocks with relation to the gold theory.....	362
Premium.....	68, 72, 128
Primary 24 hour power.....	239
Principal.....	53, 54, 59, 60, 63
Principle of distribution.....	89
Priority of liens.....	172
Prior liens.....	103, 156
Prior lien bonds.....	103, 104, 156
Producers and dividend payers.....	311
Producers and non-dividend payers.....	311
Profit	174
Promoted companies.....	223
Promoters	379
Prospects	314
Protected position.....	104

Public utility commission.....	245
Public utility bonds.....	233, 234
Purpose of municipal bonds.....	254
Preparation of Composite Plots..... (see Chap. XXIII)	
Quality of assets.....	22
Quick assets.....	339
Quotations	119
Railroad bonds.....	146, 147
Railroad companies.....	366
Railroad report.....	173
Railroad securities.....	146
Railroad stocks.....	94
Rates in large cities.....	341
Rate of interest.....	68, 69
Real deposit.....	349
Real estate.....	18, 79
Real estate investments.....	146
Receivables.....	82, 83
Receiver.....	146, 155
Receivers' certificates.....	156, 300
Record of the flow of the Hudson river.....	248
Records of the stream.....	241
Redeemable.....	72, 76
Redemption	73
Refunding bonds.....	107, 152
Refunding mortgage.....	107, 157
Registered bond.....	65
Registration	62
Registration as to principal only.....	63
Registration as to principal and interest.....	63
Relation of deposits to capital.....	22
Relation of deposits to capital, surplus and undivided profits	25
Reorganization.....	113, 124, 137, 157, 195
Replacement value..	189, 195, 197, 198, 199, 204, 212, 214, 226 229, 230
Reserve	79
Retired clergyman.....	385
Rights and privileges.....	239
Rising prices of commodities.....	320, 369, 389
Rule for purchasing bonds.....	104, 105
Rule for the permanent investor.....	127
Rule of thumb relative to fundamental conditions.....	26

Salesman.....	16, 43, 65
Savings	11
Savings bank.....	14, 17, 29, 30
Seasoned bonds.....	44, 48, 294
Seasoned securities.....	378, 386
Second mortgage bonds.....	101, 157
Security.....	85, 188
Security of street railway bonds.....	188
Selecting a bond dealer.....	122
Serial Bonds.....	73
Share	98
Short term notes.....	42
Sinking funds.....	72, 73, 74, 75, 76, 330
Special assessment bonds.....	268, 269, 270, 272
Special assessment	265
Speculation	310
Speculative bonds.....	152
Speculators.....	33, 41
Subscription books.....	33
Sunday papers.....	131, 144
Summary	389
Surplus.....	21, 84, 155, 164, 170, 174, 176
Surplus and undivided profits.....	22
Surplus earnings.....	104, 194
Surplus left for dividends.....	165
Surplus reserve.....	350
Sulphide ores.....	317
Standard of value.....	354
Standard requirements.....	86
State banks.....	19
Statement.....	19, 20, 21
Statistics	39
Statistical department.....	140
Stock.....	59, 60, 61, 62, 68, 70, 98, 100, 128, 129, 175
Stockholders.....	26, 97, 98, 295, 300
Stock certificates.....	59, 61
Stock conversion figures.....	151
Storage reservoirs.....	241
Street railway companies.....	196, 197, 201, 213
Street railway securities.....	188, 197, 212
Student	35
Study.....	35, 42, 47, 48, 51, 172
Study of investments.....	16
Swindling operations.....	133
Stock market movements.....	(see Chap. XXIII)
Taxes.....	54, 252

Technical condition.....	41
Telephone.....	227, 231
Telephone bonds.....	233
Telephone competition.....	219
Telephone earnings.....	219, 225
Telephone securities.....	92
Ten stocks.....	95
Terminal bonds.....	107, 109
Terminable franchise.....	191
Territory.....	160, 167
Tests of new enterprises.....	379
Texas municipal bond.....	259
Third mortgage.....	102
Third mortgage bonds.....	157
Theoretical analysis.....	153
Theoretical income.....	71
Time money.....	340, 343, 344
Time rates.....	343
Tipsters	144
Total gross income.....	171
Total net income.....	171
Traffic.....	23, 163, 167
Traffic expenses.....	161
Train mileage.....	164
Transfer	61
Transfer blank.....	62
Transferable by delivery.....	56
Transmission	244
Transportation	163
Transportation expenses.....	161
Trustee.....	53, 77, 78, 101, 110, 208, 295
Trust agreement.....	296
Trust company.....	16, 19, 53, 77, 79, 97, 110, 111
Trust companies receipts.....	295
Twenty-four hour primary power.....	251
Two main functions of banking.....	37
Underlying liens.....	74, 79, 86, 105, 172
Underlying bonds.....	104, 107
Underwriter's commission.....	33
Undivided profits.....	21
Unlisted bonds.....	124, 126
Unlisted securities	117
Unlisted stocks.....	129
United States Geological Survey.....	241
United States Government bonds.....	76

Unseasoned securities.....	386
Variations in the flow of the river.....	240
Velocity method.....	247
Voting power.....	130
Wages.....	358, 360, 369
Water power.....	237, 239, 240, 243, 244, 247, 248
Water power bonds.....	245
Water power securities.....	236, 238
Water rights.....	239
Weight of a cubic foot of water.....	250
Why the cost of living increases.....	358
Witness	62
Wool houses.....	83
Wool	84
Working capital.....	300
Worthless stock certificates.....	139
Write up	143
X—Y line.....	(see Chap. XXIII)
Yield.....	68, 70, 71, 72, 149, 320
Young investor.....	15



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